CLEVE HILL SOLAR PARK

THE APPLICANT'S RESPONSES TO SUBMISSIONS RECEIVED AT DEADLINE 3

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Revision A

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CLEVE HILL
SOLAR PARK

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List of Abbreviations

AHLV	Area of High Landscape Value
ALC	Agricultural Land Classification
AONB	Area of Outstanding Natural Beauty
AR HMA	Arable Reversion Habitat Management Area
BBPP	Breeding Bird Protection Plan
CCC	Canterbury City Council
CEMP	Construction Environment Management Plan
CHSP	Cleve Hill Solar Park
CHSPL	Cleve Hill Solar Park Limited
CNMP	Construction Noise Management Plan
CTMP	Construction Traffic Management Plan
DCO	Development Consent Order
DEFRA	Department for Environment Food and Rural Affairs
EA	Environment Agency
EIA	Environmental Impact Assessment
ES	Environmental Statement
FGM HMA	Freshwater Grazing Marsh Habitat Management Area
FRA	Flood Risk Assessment
FTC	Faversham Town Council
GREAT	Graveney Rural Environment Action Team
Ha	Hectares
HGV	Heavy Goods Vehicle
HMA	Habitat Management Area
HMSG	Habitat Management Steering Group
HRA	Habitat Regulations Assessment
IDB	Internal Drainage Board
ISH	Issue Specific Hearing
KCC	Kent County Council
kV	Kilovolt
LBMP	Landscape and Biodiversity Management Plan
LIR	Local Impact Report
LNR	Local Nature Reserve
LVIA	Landscape and Visual Impact Assessment
MAFF	Ministry of Agriculture, Fisheries and Food
MEASS	Medway Estuary and Swale Strategy
MHWS	Mean High Water Springs
MR	Managed Realignment
MW	Megawatt
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project
PEIR	Preliminary Environmental Information Report
PINS	Planning Inspectorate
PRoW	Public Rights of Way
PV	Photovoltaic
RIAA	Report to Inform Appropriate Assessment
RR	Relevant Representations
SBC	Swale Borough Council
SPA	Special Protection Area
SoCG	Statement of Common Ground
SSSI	Site of Special Scientific Interest
WWII	World War Two

1 INTRODUCTION

1. This document provides Cleve Hill Solar Park Ltd's (the Applicant's) response to the Written Representations (WRs) submitted to the Planning Inspectorate (PINS) by Deadline 3 on 1 August 2019, relating to the Development Consent Order Application (the DCO Application) for Cleve Hill Solar Park (the Development).

2. Table 1.1 lists the organisations which made submissions at Deadline 3. The Applicant has responded to the points raised by these stakeholders in Section 2 of this document.

3. A further 12 WRs were submitted by members of the public. These responses have been grouped by topic and are addressed on that basis in Section 3 of this document.

4. References to the Application documentation are provided where necessary according to the reference system set out in the Cleve Hill Solar Park Examination Library.

Table 1.1: List of organisations which submitted Written Representations

PINS Reference	Written Representation Received from
REP3-049	Canterbury City Council
REP3-050	Faversham and Swale East Branch Labour Party
REP3-054	Kent County Council on behalf of Kent County Council, Swale Borough Council and Canterbury City Council
REP3-055	Swale Borough Council
REP3-056	Swale Borough Council
REP3-062 REP3-063 REP3-064 REP3-065	CPRE Kent
REP3-066	Faversham Creek Trust
REP3-067	Faversham & Oare Heritage Harbour Group
REP3-069	The Faversham Society
REP3-070	The Faversham Society
REP3-076	Helen Whately MP
REP3-079	Kent Wildlife Trust
REP3-082	Natural England

5. Other representations received from members of the public raising issues in addition to those covered in other responses have also been addressed. Table 1.2 sets out the representations addressed in this document by author and the topics raised.

Table 1.2 List of Representations Received at Deadline 3 from Members of the Public requiring responses

PINS Reference	Representation Received from	Topics Raised
REP2-072 REP3-057	Bob Gomes	Ornithology
REP2-060 REP3-058	Dr Bruno Erasin	Agricultural Land Classification
REP3-059	Dr Bruno Erasin	Environmental Risks from the Battery Storage System
REP3-081	Matthew Hatchwell	Ecosystem Services and Managed Realignment European Eel
REP3-083	Penelope Geoghegan	Scale, location, appearance, wildlife, construction traffic route, alternatives (solar panels on new housing)
REP3-085	Stephen Ledger	Policy, need, environmental, alternatives
AS-038	Dr Tim Ingram	Climate change, biodiversity loss, carbon sequestration, flooding, ornithology

2 STAKEHOLDER ORGANISATION WRITTEN REPRESENTATIONS AND THE APPLICANT'S RESPONSES

2.1 REP3-049 Canterbury City Council

Table 2.1: The Applicant's Comments on Canterbury City Council's Written Representation

Ref.	Statement	Applicant's Comment
TOWN AND COUNTRY PLANNING ACT 1990 PRE-APPLICATION ENQUIRY		
1	TOWN AND COUNTRY PLANNING ACT 1990 PRE-APPLICATION ENQUIRY	
2	In paragraph 28 of its Local Impact Report (LIR) submitted on 31st July 2018, CCC advised that it would provide further comments once an independent assessment on the landscape impact of the proposed development had been carried out. Since the issue specific hearing on 23rd July 2019, CCC have reviewed the independent assessment and remain of the view that the proposed development would have a detrimental impact on the setting of the Seasalter Marshes Landscape Character Area (LCA) and the North Kent Marshes Area of High Landscape Value (AHLV). However, CCC wish to make the following additional comments on landscape and visual amenity matters, particularly in relation to the methodology and choice of viewpoints used to inform the Applicant's Landscape and Visual Impact Assessment (LVIA) and the Applicant's assessment of the landscape effects of the proposed development.	The Applicant notes these comments.
Methodology		
3	Overall, CCC raise no objections to the methodology used in the LVIA submitted by the Applicant. However, CCC consider that the landscape should be considered to be of more than local value, given that it forms part of a larger Kent Marshes designation that crosses the administrative area of CCC into Swale that shares similar characteristics	The Applicant stands by its initial assessment of landscape value for the AHLV (North Kent Marshes) based on policy LB2 (Canterbury District Local Plan Adopted July 2017). Paragraph 5.45 of GLVIA3 states that: 'The Value of the landscape receptors will to some degree reflect landscape designations and the level of importance which they signify, although there should not be over reliance on designation as the sole indicator of value: Assessments should reflect: • Internationally valued landscapes recognised as World Heritage Sites; • Nationally valued landscapes (National Parks, Areas of Outstanding Natural Beauty, National Scenic Areas or other equivalent areas; • Locally valued landscapes, for example local authority landscape designations or, where these do not exist, landscapes assessed as being of equivalent value using clearly stated and recognised criteria; • Landscapes that are not nationally or locally designated, or judged to be of equivalent value using clearly stated and recognised criteria, abut are nevertheless valued at a community level'. In line with the above guidance, and following our methodology as set out in Chapter 7 – Landscape and Visual

Ref.	Statement	Applicant's Comment
		Impact Assessment of the ES [APP-037] at section 7.2.7.3, alongside professional judgement value is assessed to be of a local level despite the fact that the site transcends local authority boundaries. In any event, were the landscape value increased to National/Regional value the effects would remain not significant. The assessment of landscape effects table (Table B3) contained within Technical Appendix A7.3 of the ES [APP-209] sensitivity for this receptor is incorrectly stated as Medium and this should be Low, as per the assessment of sensitivity shown in Table B1 of the same appendix.
Choice of viewpoints		
4	No objection is raised in relation to the viewpoints chosen in the LVIA. However, CCC endorse the view of the Examining Authority that further justification should be put forward in relation to the use of different scales/cropping of the photomontages showing the visual effects of the proposed development.	This is addressed in the response to ExQ2.6.1 in the Applicant's Responses to ExQ2 (Deadline 4 document reference 12.1.1).
Effects of proposed development		
5	As confirmed at the issue specific hearing, the solar panels would not be directly adjacent to the CCC's administrative boundaries.	The Applicant notes these comments.
6	The LVIA concludes that the characteristics of the landscape can accommodate the proposed development but elsewhere in the report, it identifies significant landscape effects. In addition, There is also a lack of consistency in reporting the sensitivity of and extent of effects on the LCA and AHLV.	The Applicant stands by its assessment of effects and associated comments and in relation to sensitivity. The presence of significant landscape effects from the introduction of a development does not in itself mean that the landscape cannot accommodate such change. In the context of this application whilst parts of the landscape with experience Major significant effects from the introduction of the Development, those effects are assessed as being localised and therefore the landscape itself is judged to be capable of accommodating the Development by virtue of the fact that such effects are localised.
7	In addition, the LVIA states that the proposed development is low-lying in nature, however the solar panels would be 3.9m in height, cover a significant area of land and would be visible in long-range views from the surrounding area. Comparisons are also made in the LVIA between the proposed development and existing pylons within the landscape, however this is not considered appropriate given the differing nature of these developments in terms of horizontal vs. vertical extent.	The solar PV modules vary in height across the site ranging between 3.0 and 3.9 m above ground level. The Applicant agrees that the panels cover a large area; however where the panels are visible from long range views; such views are towards part of the site where in the view composition they are barely perceptible within this landscape. Reference to the pylon towers are to establish the baseline context and are important to recognise as they form the largest vertical elements within this low lying landscape, and traverse the study areas. They form visual detractors in the landscape and a unifying visual feature. Such features are assessed throughout the LVIA chapter alongside other landscape detractors such as Cleve Hill substation. Such assessment is balanced by a description of positive landscape features relating to perceptual qualities of the site and the nature of the landscapes within the study area.
Proposed mitigation		
8	Whilst it is stated that the LVIA is based on a worst-case scenario, no details of the security measures such as fencing and CCTV have been secured in the DCO application. These	Details of security measures etc. are set out in in Chapter 5 – Development Description of the ES [APP-035] and have been considered on a worst case basis as part of Chapter 7 – Landscape and Visual Impact Assessment of the

Ref.	Statement	Applicant's Comment
	are considered to be relevant to the consideration of the landscape impacts of the proposed development. Should further details be submitted, CCC will review this information and provide its comments at the relevant stage of the examination.	ES [APP-037].
9	In addition, the extent of mitigation proposed is considered small and limited in relation to the scale of the proposed development. Furthermore, the appropriateness of the proposed landscape is questioned as this would be at odds with the openness and long-ranging views that are characteristic of the landscape.	The mitigation proposed is considered appropriate to the scale of development given the context of the landscape. The Development is capable of being fully screened by vegetation, however it was assessed as part of the LVIA in Chapter 7 – Landscape and Visual Impact Assessment of the ES [APP-037] that such extensive planting would not be suitable to the character of the CLS Area and in the context of the wider landscape. Extensive landscape mitigation is incorporated on the southern boundaries of the CLS area where it lies adjacent to the Graveney Fruit Farms LCA 22 and the Graveney Arable Farmlands LCA 21. The remaining planting is considered appropriate to the context of the CLS Area to the north of these LCA's consisting of extensive areas of grazed grassland replacing arable fields and scattered scrub vegetation which is characteristic of coastal edge low regeneration of scrub, all of which is set out in Technical Appendix A5.2 of the ES [APP-203].

2.2 REP3-050 Faversham and Swale East Branch Labour Party

Table 2.2a: The Applicant's Comments on Faversham and Swale East Branch Labour Party's Written Representation on Heritage Impacts

Ref.	Statement	Applicant's Comment
Submission for Deadline 3 requesting an Issue Specific Hearing in the week commencing 9th September 2019 on Cultural Heritage, with particular reference to the impact of the development on listed buildings and conservation areas in the Graveney area, in view of the differences of opinion on the level of impact and on the national planning guidance to be taken into account.		
1	Historic England do not agree with the developer's calculations of the level of harm to the settings of the grade I and two grade II listed buildings and in my view are unlikely to change that view.	FSEBLP highlight the difference in the degree of impact assessed by Historic England (HE) and the Applicant. HE considers the impact to be "moderate", whilst the Applicant has assessed it to be "minor". FSEBLP correctly identifies that both the Applicant and HE agree that the level of harm caused is "less than substantial"; this is stated in HE's SoCG [REP2-031]. The divergence in view between HE and the Applicant is one of professional judgement, rather than a misapplication of relevant policy or method, a position also stated in the SoCG. Planning Policy Guidance on Historic Environment[1] clarifies that there are two categories of harm, "substantial" and "less than substantial" and that "within each category of harm (which category applies should be explicitly identified), the extent of harm may vary and should be clearly articulated". This allows for a varying degree of interpretation, and allows for professional judgement. The key policy test is that both HE and the Applicant agree that the category of harm is "less than substantial" and this is what has meaning in respect of paragraph 196 of the NPPF. "Substantial harm" is also the key category of harm recognised in the NPS EN1. Whilst any harm requires justification, the fact that HE and the Applicant agree that the proposals do not represent "substantial harm" is what has meaning in respect of paras 5.8.14 and 5.8.15 of the NPS. The Applicant recognises that there is disagreement with HE in professional judgement on the degree of impact, however, we would highlight the agreement on the category of harm (namely "less than substantial") between HE and the Applicant, this having meaning in respect of the NPPF and NPS tests. The Applicant disagrees with the characterisation of the existing setting of the heritage assets as set out by FSEBLP which leads to their conclusion that the impact is greater than "minor". In particular in respect of All Saints Church where FSEBLP states: " the churchyard has extensive views over the site to the north and west, at present only partly screened by deciduous trees" The view referred to is currently mostly screened by evergreen yew trees with the main location where the view
2	All Saints Church, Graveney is listed Grade I and is a part 12th and part 14th century structure described in 'The Buildings of England-Kent: North East and East' as a rarity in Kent as delightfully unrestored and worthwhile as architecture and contains objects beautiful in their own right. It is located within a group with Graveney Court, Grade II which is the main building of a farm adjacent to the church. Together, these are located within the Graveney conservation area. Sparrow Court is also listed Grade II and is located at Broom Street, Graveney at the immediate edge of Graveney marshes.	
3	The settings of Graveney Church and Graveney Court and of Sparrow Court comprise parts of a village with scattered groups of buildings among a rural, farmed landscape adjacent to extensive marshland areas between the village and the sea wall. The asset with the highest significance is All Saints Church, Graveney.	
4	The National Planning Policy Framework defines what constitutes substantial harm to heritage assets and also what may be treated as less than substantial harm. What is less than substantial harm can be graded by the severity of its impact. Since none of the listed buildings are intended to be demolished or altered as a result of the proposal, it is clear that the scheme would result in less than substantial harm. In all cases, it is the setting of the buildings that is affected	
5	Historic England argue that the level of harm to All Saints Church and to Graveney Court and Sparrow Court would be moderate while the developer defines that level of harm as minor. This is argued because the solar panels are only on two sides from the historic assets and not on all four sides, being only on the north and west sides. Since the panels and bund are on the flat marshes as set out in the revised scheme deleting field Y, this is inevitable, but it does not lessen the impact	

[1] Ministry of Housing, Communities and Local Government Guidance, Historic Environment (July 2019). Available at: https://www.gov.uk/guidance/conserving-and-enhancing-the-historic-environment#history [accessed 19/08/2019]

Ref.	Statement	Applicant's Comment
	on the sides that are affected. The church tower overlooks the development site and the churchyard has extensive views over the site to the north and west, at present only partly screened by deciduous trees. The same applies at Graveney Court and Sparrow Court, both of which are closer to the marshes. All three buildings are set among deciduous trees and their location can be seen from the marshes and the sea wall and beyond across the Swale at long distances. All these views would be dominated by views of solar panels, and in the case of Graveney Church and Graveney Court, also the extensive bund standing up from the marsh. This is the justification for the impact being more than minor.	referred to being available at the location of Figure 5 a/b of the additional visualisations submitted at Deadline 3 [REP3-028].
6	Historic England also comment with regard to archaeology on the site that there is insufficient detail in the Written Statement of Investigation submitted by the Developer regarding the treatment of the World War II air crash site. This is another significant area of disagreement between HE and the developer. They consider that there should be a clearly set out mitigation strategy for this protected element on the site.	The Outline WSI covering archaeology has been updated and was submitted at Deadline 3 [REP3-007] to address HE's comments. HE has confirmed it is in agreement with the revised WSI in the SOCG submitted at Deadline 4 (document reference 12.2.3).
7	There is also concern from other representees about the extent to which piling across the site to construct the roadway and install the transformers, panels and fences and the construction of the bund and battery mountings would result in loss of the subterranean archaeology. Even if recorded to a level agreed in a Written Statement of Investigation, these works would still result in the permanent loss of the buried artefacts. The site is important as a very large, undeveloped area, rare in the south east of England over which such remains of its history and pre-history can be investigated.	KCC has been involved from the earliest stages in consideration of the impacts of the scheme and have stated their contentment with both the assessment methodology as well as the proposed mitigation, this agreement is set out in the meeting notes from the meeting with local planning authorities on 22 August 2019 (Deadline 4 submission document reference 12.1.5).
8	The impact of the proposed landscaping and planting around the edges of the site is also important to the setting of the listed buildings. It is intended to provide new deciduous planting of trees and shrubs to the north and west to screen the views of the panels from the churchyard. This would have the effect of screening the churchyard from views of the fields themselves and of the church from across the marshes to the west including Harty Church and other locations on Sheppey and sites towards Sittingbourne. The same would apply at Graveney Court so that the marsh would be less visible from the property and the property from the marsh. It is the intervisibility between the buildings in the village and the marsh which is important to the setting. This would also apply at Sparrow Court. The existing views toward the Old Vicarage would remain, but views of the	The Applicant notes that FSEBLP make reference to effects on settings and an emphasis on the visual component of setting. The methodology which is recognised by HE as acceptable and correctly applied [REP2-031], is concerned with the effect upon the significance of heritage assets (arising through a change in setting causing a loss of or reduction in the contribution made by setting to significance, causing loss of significance of an asset – this being the harm referred to by the NPPF). The relevant guidance (Historic England's General Planning Advice GPA3 at paragraph 9 for example) makes it clear that setting itself is not an asset or a designation – its importance lies in its contribution to the significance of an asset (and this contribution may be only one part of the historic interest in an asset). Whilst there can be a major change in setting, this may not cause any loss of significance of an asset, and depending on the asset sensitivity, the opposite could apply. FSEBLP has

Ref.	Statement	Applicant's Comment
	marsh and of the building from the marsh would be lost and these views make an important contribution to the appreciation of the setting.	over emphasised the visual component, and the Applicant would reiterate that simply intervisibility does not automatically equate to harm.
9	The site visit on 24th July 2019 demonstrated that Graveney Churchyard has long views over the site and there are also views of parts of the site from Sparrow Court and the Old Vicarage which is an important building within the context of Broom Street and of Graveney as a whole. The site visit also passed Sandbanks Farm, also listed grade II and the same issues would apply that the building can be seen from the marshes and the marshes from it. The development, in particular large areas of panels screened by trees and hedges would have a substantial impact on the setting of the listed buildings. The views of the listed buildings and of the conservation area from the marshes and their views to the marshes are an important part of their present character.	
10	The setting of the listed buildings and the conservation areas at Graveney are an important planning consideration. The regard to be had to historic buildings and their settings is set out in section 66 (1) of the Planning (listed Buildings and Conservation Areas) Act 1990 and the similar regard to be had to the setting of conservation areas is set out in section 72 of the same Act. The requirements of the National Planning Policy Framework with regard to listed buildings and their settings are also relevant in this case. Swale Borough Council in their Local Impact Report refers to the Barnwell Manor case with regard to what constitutes less than substantial harm and how this should be weighed against need for a development. The developer is of the opinion that these requirements about special regard to the harm to the listed buildings and their setting do not apply to Nationally Significant Infrastructure Projects but only a weaker version specifically designed for NSIPs, the Infrastructure Planning (Decisions) Regulations 2010. This matter needs to be clarified together with its implications for this case.	The Applicant submitted a written representation on heritage policy [AS-027] in July 2019. The Applicant has used NPPF compliant language in the assessment (specifically in the Heritage Statement [APP-257]) to allow a clear articulation of the degree of impact (and thus read through to the category of harm anticipated) in accordance with the latest PPG for heritage. This does not replace the NPS test, under which this application falls. The Applicant has sought to identify where there is harm, and in what category this harm falls, as per the NPPF. The decision-making route under the NPS use similar terminology, and while all harm requires justification, is draws a clear distinction with respect to "substantial harm". As set out in the Applicant's response to the Local Impact Report [REP2-033] as the Barnwell Manor decision was under s.66, this cannot be seen as applicable to an NSIP application. The Barnwell Manor case, in any event, served as a reminder to the decision-maker; it does not change the statutory duty, nor strengthen any presumption against development (which the Planning Act 2008 does not in any case make). No clarification is required with regards to the applicability of the Infrastructure Planning (Decisions) Regulations 2010 to decisions on NSIPs with regards to heritage matters. Regulation 3 is unambiguous and makes very clear, on its face, that the requirement of "regard" rather than the s.66 "special regard" requirement applies to applications under the Planning Act 2008. The reference to setting of Conservation Areas as per s72 of the Planning etc. Act is factually incorrect and irrelevant. Section 72 states: *"In the exercise, with respect to any buildings or other land in a conservation area, of any functions under or by virtue of*

Ref.	Statement	Applicant's Comment
		any of the provisions mentioned in subsection (2), special attention shall be paid to the desirability of preserving or enhancing the character or appearance of that area." There is no mention of "setting" in s72, which suggests that the intent of this section is different to s66 where "settings" (and the desirability of preserving them) is specifically mentioned with regard to the Listed Buildings. The provision in s72 is with respect to buildings and land within a conservation area – the Development isn't in the conservation area, so in this respect s72 wouldn't be engaged in any event. NPS also makes it clear that not all elements of a Conservation Area necessarily contribute to its significance, and that the decision maker can consider the relative significance of the elements affected, and their contribution to the Area as a whole.
11	All of these aspects of harm to the cultural assets including the listed buildings, conservation areas and their settings and archaeological remains at present undisturbed should be weighed with other factors such as impact on biodiversity and landscape against the need for the scheme. This should be looked at in the context that the development has to be removed (with the possible exception of the bunded battery enclosure) within 40 years because of managed retreat of the sea wall and that in this case, the scheme would not be providing a long-term contribution to England's power supply.	The Applicant would like to make clear that dDCO Requirement 16 (Deadline 4 document reference 3.1, Revision D) sets out that the Development would be able to operate for at least 40 years prior to managed realignment taking place (i.e., not that it has to be removed within 40 years). The Applicant's view is that 40 years of low carbon electricity supply and storage represents a significant long-term contribution to England's electricity supply by the Development.

Table 2.2b: The Applicant's Comments on Faversham and Swale East Branch Labour Party's Written Representation on Biodiversity and Nature Conservation Matters

Ref.	Statement	Applicant's Comment
Submission for Deadline 3 requesting an Issue Specific Hearing in the week commencing 9th September 2019 on Biodiversity including birds, with particular reference to the additional information arising from the amendments to the Landscape and Biodiversity Management Plan, Construction Noise Management Plan, Decommissioning Management Plan and other documents that would clarify whether the scheme would result in harm to the International Sites and therefore the requirement for the applicant to demonstrate an overriding need for the scheme		
1	Anne Salmon BA MCD MRTPI comments as follows:	An Issue Specific Hearing into Environmental Matters is scheduled for 11 September 2019.
2	The discussion at the hearing on Thursday 25th July relating to biodiversity included many references to an update to the Landscape and Biodiversity Management Plan to be submitted at deadline 3 to be discussed with the Habitat Management Steering Group before deadline 4. This includes habitat loss or damage during the construction period. Both of these deadlines are before the start of the week commencing 9th September. Since these changes are expected to affect how Natural England, the RSPB and Kent Wildlife	

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	Trust view the impact of the development on the International and Nationally important habitats at the site, having a public hearing after these stages of discussion would enable other bodies to contribute to the discussion on these matters. The subject of the impact on habitats and particular protected species, for which the RAMSAR/Special Protection Area site is designated, is of great importance regarding whether the scheme should be granted or not and whether over-riding need has to be established as required by stages 3 and 4 of People Over Wind.	
3	Within this, the question of impact on the whole assemblage of birds for which the RAMSAR site is designated needs to be considered. There are several other wader species than just golden plover and lapwing including black tailed godwit and curlew and also duck species which visit the Swale in internationally important numbers and use the functionally linked land. The issue of whether the ARHMA is sufficient for all three species of named birds was not fully resolved in the hearing including the possibility of extra land being required elsewhere on the site. One of the studies for Brent geese was dated 1994 which is already 25 years ago and not at all recent while other bird surveys were mostly 4-5 years ago. The question of farmland birds on the site was not fully discussed during the 25th July hearing and these birds including yellow wagtail and skylark are birds which use arable crops in which to nest and feed and are nationally declining species. The scheme would result in the loss of all arable uses on the site, leaving only narrow strips of ditch vegetation and along the footpaths and grazed areas under the panels. The grazing regime has also not been fully discussed. In the areas close to footpaths, birds are likely to suffer from some disturbance from humans and dogs whereas if they were in an arable field, they would have more space to nest safely.	The Applicant has made an assessment of the potential effects on all component wintering species of the SPA, which is reported in Chapter 10 of the ES [APP-040]. In line with best practice, the assessment identified the important ecological features and assessed the potential effects on those features. With the exception of brent goose, lapwing and golden plover, the effects of changes to the habitats were assessed as negligible in magnitude (or no effect for some component species) and not significant. The Applicant has continued to provide evidence and updates to the documents during the Examination setting out the rationale for the AR HMA in its provision of resources for brent goose, lapwing and golden plover. The Applicant has provided the best available evidence from the literature to support the proposals for mitigation and is satisfied that the age of the 1994 study is relevant tot eh proposals. The Applicant would welcome notification of any more recent studies that examine the capacity of grassland for wintering bird species. The Applicant has provided an assessment of the potential effects on farmland birds in Chapter 10 of the ES. Although the mitigation areas will provide some habitat for open-field nesting species, including in the inter-array grassland areas, there is expected to be a decrease in the number of open-field nesting species, such as skylark whilst other species associated with marginal habitat will benefit. Updates to the Outline LBMP have been be made and submitted at Deadline 4, including additional detail on the grazing proposals.
4	The question of the period over which the ARHMA should be monitored for its effectiveness needs to be considered. At present this would only be for the first five years, but is this including the two years of construction or the first five years of operation? If it includes the construction period, then only the first three years of operation would be monitored. This was discussed briefly on 25th July and the developer agreed to update the LBMP on this matter. It is likely that over the next 20-30	Updates to the Outline LBMP have been be made and submitted at Deadline 4, including additional detail on the extended monitoring proposals, including the implementation of the AR HMA, and years 1, 2, 3, 5, 10 and 20 following construction. A mechanism is proposed for reporting to the Habitat Management Steering Group. As arable farmland, the site does not currently provide nesting or foraging habitat for species such as avocet, nor is this likely to change if maintained under such management, irrespective of the effects of climate change. Whilst there is no nesting habitat for little egret within the site, there is

Ref.	Statement	Applicant's Comment
	years, there would be significant climate effects which may affect the way that the species of vegetation to be planted will perform. Also, there may be increasing numbers of other bird species such as little egret and avocet which have already changed their breeding and feeding habits over the last few years. This may require alternative and more extensive habitats to be formed which may result in the need for the open areas to be extended or moved.	foraging habitat in the ditches, which will be enhanced through the proposals set out in the Aquatics Habitat Management Plan (in the outline LBMP).
5	Further, it has not been demonstrated that marsh harriers would use the site with panels and only narrow corridors along ditches and two footpaths. That these raptors would use narrow corridors has been doubted strongly by a local expert who spent a number of years working at a nearby RSPB reserve. The footpaths ZR484 and the permissive path would extend the full width of the site and represent two of the widest corridors but despite their enclosed nature are still likely to be used by humans and dogs to traverse the site to reach the sea wall which is part of a national trail, the England Coast Path.	The provision of additional favourable habitat, associated increase in prey species and the more sympathetic management of water levels within the Development site are all factors that are expected to have beneficial effects for marsh harrier that attracts them to forage. It is acknowledged that some individual birds may be dissuaded from utilising the site by the presence of the Development, whilst others will not. The greater availability of prey in the more favourable habitat created is expected to maintain marsh harriers at a population level. There has been no clear scientific evidence presented to the Examination that marsh harriers will not attend the site. Appendices 3 and 10 of the Applicant's Responses to ExQ2 (Deadline 4 document references 12.1.4 and 11) provides the information on the separation between arrays along the northern edge of the Development site. The Applicant is confident that the separations achieved are sufficiently wide that marsh harriers would not be deterred from entering the solar array area from the borrow dyke.
6	The NPPF and new national environmental guidance referred to during the hearing on the 25th July together with the Swale Local Plan do not seek simply no net loss of wildlife species. Planning policies in the Local Plan expect proposals to enhance the ecology of sites rather than just no net loss. The increase in species promised mostly arises from new habitat being created in the new hedges and woodland around the site. If the development results in the loss of existing species on the site that are already getting rarer, this is not a benefit to the biodiversity of the area. An assessment of the impact on species already present on the site across its whole area would be helpful.	The Applicant prepared Biodiversity Metric Calculations which were submitted at Deadline 2 [REP2-045] and predict an overall net gain in biodiversity as a result of the habitat changes proposed as part of the Development. The DEFRA methodology for undertaking these calculations has since been updated, and updated calculations have been submitted at Deadline 4 (Deadline 4 document reference 12.5.8). The effects of the Development on species are assessed in Chapter 8 - Ecology of the ES [APP-038).
7	It is important that the Development Consent Order should include what measures are to be taken to protect species that are important at a European level as well as nationally important species. This is partly because the development is expected to be in place for forty years and most people who are dealing with it now are likely to have retired or passed on. However, another concern is that nationally and internationally important species may vary over time. In addition, the DCO may need updating to meet changed circumstances such as changes to local	The effects of the Development on European Protected Species are assessed in Chapter 8 - Ecology of the ES [APP-038).

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	government and the management of national infrastructure such as the environment agency's role, electricity and energy management or countryside management. These elements all have an impact on the relationship between the developer and the public and could also affect the attitude to maintaining and improving habitats on and around the site for biodiversity. These issues should be considered at a public hearing	

2.3 REP3-054 Kent County Council on behalf of Kent County Council, Swale Borough Council and Canterbury City Council

Table 2.3: The Applicant's Comments on Kent County Council on behalf of Kent County Council, Swale Borough Council and Canterbury City Council's Written Representation

Ref.	Statement	Applicant's Comment
Response to Action Point 1 - Local Landscape Designation Review and Recommendations		
Introduction		
1	LUC was commissioned by Kent County Council (KCC) to undertake a review of the Landscape and Visual Impact Assessment of the Cleve Hill Solar Park contained in the Environmental Statement (ES) prepared in November 2018.	The Applicant has provided a response to the issues or clarifications raised within Table 2.3. Where further clarification is required the Applicant will provide a written statement of clarification prior to the Issue Specific Hearing 6 into Environmental Matters.
2	In June 2018 LUC was commissioned by KCC to undertake a review of the LVIA contained in the Preliminary Environmental Information Report (PEIR). The Applicant's response to these comments is provided in Technical Appendix A7.5 Consultation Comments (LUC Comments on behalf of KCC, SBC &CCC).	The Applicant notes these comments.
3	The information presented in the following chapters updates the earlier LUC report and considers how the conclusions and recommendations on the LVIA in the PEIR have been taken into account in the final environmental assessment.	
4	The LVIA is contained in Volume 1 Chapter 7 of the Environmental Statement, with supporting Figures in Volume 2, Viewpoint photography is in Volume 3. It is also supported by a series of Technical Appendices in Volume 4.	
5	The information in this review is primarily concerned with the effects of the operational solar park development on landscape and visual resources. It does not cover the residential amenity assessment.	
The Scheme		
6	This section sets out the scope of the Solar Park Development and any changes from the PEIR scheme. The key parameters relevant to the LVIA are set out in Chapter 5 Development Description.	The Applicant notes these comments.
Key parameters relevant to LVIA		
7	• Total site area of 491.2 hectares (ha), of which 387.6 ha is arable land, where the development will take place (although the actual area of solar panels is not clearly stated); • A large site extending 2.9km across in an east to west direction and 1.7km in a north south direction. • Around 884,388 Solar PV modules/ 2,900 'tables' or solar panels, each approximately 28m by 25m and with a maximum height above ground level of between 3m and 3.9m, to allow for flood clearance; • Panels will be arranged in an east-west direction with overall heights ranging from 3m – 3.9m.	The specific arrangement of solar PV modules and the precise dimensions of the tables are not limited, with the key factors that constrain the worst case being the maximum height and the separation between the arrays, and the maximum area of the solar PV modules within the fixed field areas set out. These parameters have been selected in dialogue with technical specialists to ensure that the worst-case is captured by the Rochdale Envelope and the Outline Design Principles.

Ref.	Statement	Applicant's Comment
	• The tables will be arranged across 23 'fields' across the development site reduced form the PEIR of 26 fields; • 80no transformers across the site, each 8.2m by 2.3m, and 3m high, typically coloured grey; • An electrical compound of 325m by 250m, surrounded by a soil bund around 35m width across and crest at AOD 5.3mbetween 3.3m and 4.8m above ground level, comprising a total area of 10 ha and containing: - a substation, with various components up to 12.8m high; and - an electricity storage facility that occupies over half of the compound area, and comprises modules up to 2.2m high; • 15 km of 2m high deer fencing (timber and stock netting) enclosing the operational area; • Around 240 CCTV cameras on 3m poles inside the security fence; Lighting will be limited to the substation and transformers, and will be sensor-activated; • A tarmac access road from the existing Cleve Hill sub-station access road • A stone 'spine road' of around 2.2km in length will provide the main access, with other access via existing farm tracks or grassed tracks; and • The development site will be grazed by sheep during operation.	
8	The principal difference to the PEIR scheme is the removal of panels in fields J, Y and Z, which are all on arable land. This releases a small area of extra land for arable reversion and removes panels from fields Y on the sloping land of Graveney and Cleve Hill. This is described in Chapter 5 Development Description but no indication of the area of land is provided. The extent of these fields is shown on Figure 5.1/5.2 in the ES. They are 3 small 'fields' within the total development area of 24 field compartments.	An area of over 13 ha. is covered by fields Y and Z, 4 ha. of this constitutes field Y, and an area of approximately 11 ha is covered by field J and the eastern 50 m of Fields H and I have been removed from the solar PV. Therefore the removal of panels from field Y and J has resulted in the removal of 15 ha of solar PV. Of the above 4 Hectares relating to field J is specifically removed for visual purposes as set out in chapter 4 of the ES.
Embedded mitigation and enhancement measures		
9	The LVIA does not clearly set out the embedded mitigation at the outset, apart from the addition of one new permissive footpath through the core area. Review of the ES suggests that this has not changed since the PEIR and in, our understanding, encompasses the following: • Existing public rights of way through the site will be retained and further new permissive footpath; • A habitat management area will be established, comprising 41 ha of arable land and 37.1 ha of freshwater grazing marsh – details of this area are set out in Appendix 5.2; • Other landscape proposals include: - establishment of 3.52 km of native-species hedgerows, containing 554 native trees, in	Embedded mitigation is set out in chapter 4 of the ES: Site Selection, Development Design and Considerations of Alternatives as set out in Chapter 7, section 7.4.2 of the ES [APP-037]. The landscape mitigation is illustrated in Figure A5.1 of the Outline Landscape and Biodiversity Management Plan (Deadline 4 submission document reference 6.4.5.2, Revision C). Native woodland was introduced following PEIR.

Ref.	Statement	Applicant's Comment
	the southern part of the development; - establishment of 1.3 ha of native woodland shelterbelt in the southern part of the development; - establishment of 1.5 ha of native woodland on the bund around the electrical compound; and - establishment of 4.3 ha of native species scrub along the northern edge and south eastern corner of the development.	
Section 42 Consultation		
10	In addition to the scoping consultation (see previous LUC report), the LVIA includes information of the Section 42 Consultation of the PEIR which identifies a number of common themes. These are reported in greater detail in Appendix A7.5 which contains Section 42 Applicant Regard to Consultee Responses, which contains a detailed response to KCC's comments a line by line response to the LUC report.	The Applicant notes these comments.
Summary		
11	The proposals are summarised at 7.1.1, which sets out worst-case scenario and references the total size of the site. However, the LVIA does not state that total area of panels and does not indicate the extent of fencing and security measures which are also of relevance for the assessment. The LVIA does not clearly set out the embedded mitigation.	Embedded mitigation is set out in chapter 4 of the ES: Site Selection, Development Design and Considerations of Alternatives as set out in Chapter 7, section 7.4.2 of the ES [APP-037]. The LVIA is based on the candidate design as shown in Figure 5.2 Site Layout [APP-053], and as set out in Chapter 5: Development Description [APP-035]. Embedded mitigation is also described in the Outline Landscape and Biodiversity Management Plan (Deadline 4 submission document reference 6.4.5.2, Revision C).
LVIA Review		
Methodology		
12	This section contains a brief review of the LVIA methodology with reference to how KCC (LUC) comments on the PEIR have been taken into account.	The Applicant notes these comments.
13	We are pleased to note that the majority of recommended changes have been taken into account in the LVIA chapter. It is also useful to note that landscape and visual effect defined as 'moderate' are also now deemed to be significant in line with other chapters in the ES. Overall the methodology appears fit for purpose, albeit with comments set out below. There remain questions over how it is applied in practice and results are interpreted. The practical implementation of the LVIA is set out below. In particular the summary of this report (in chapter 3), indicates how results have been qualified and to an extent interpreted to indicate a lower level of effect.	
14	Key notes on method are set out below:	
Study area(s) and ZTV		
15	• The definition of multiple study areas - Core Landscape Study Area (CLS), 2km study area and 5 km study is confusing in its approach for the reader and makes results more	The Applicant confirms that the CLS area refers to the site itself.

Ref.	Statement	Applicant's Comment
	difficult to interpret. • The subsequent use of a mix of the CLS and landscape character areas for reporting and summarising landscape effects is difficult to understand. It is assumed that the CLS refers to the site itself.	
Landscape Susceptibility		
16	• Table 7.3 could be clearer in providing an indication of the parameters which might affect susceptibility and make this particular landscape more or less able to absorb this specific development. This information would aid understanding on how the judgements have been made.	Table 7.3 describes how susceptibility has been assessed. An example of this is as described in response to ExQ2.6.3 (Deadline 4 submission document reference 12.1.1) as follows: The CLS area was assessed as being highly susceptible to change due to the open nature of the landscape of the CLS area the landscape has limited ability to accommodate development (other than scale) without such development changing the landscape character. There are for example no trees or elements of landform which are able to screen the development within the CLS area and limit the effects upon in. The susceptibility of the AHLV as a whole is assessed as low due to the limited wider extent of effects upon the AHLV and the ability of landscape features such as the sea walls to the east and west of Faversham Creek, along Oare Creek and to the north of the CLS area which compartmentalise the landscape and limit inter visibility and wider effects upon landscape character. Therefore although the character of the CLS area (which is within the eastern edge of the AHLV) is effected in its entirety the character of the AHLV is effected to a much lesser degree due to the intervening landform of the surrounding landscape and the fact that the majority of the development is not visible below the sea wall nor effects the wider landscape character of the AHLV.
Landscape Value		
17	• The purpose of two separate sets of criteria for designated (table 7.4) and undesignated landscapes (table 7.5) is unclear. It is not apparent why these are included, particularly as it is already established that the proposed development is within a local authority landscape designation and is therefore an Area of High Landscape Value (AHLV). • Table 7.4 is very unclear as it refers to green belt and TPOs which are not landscape designations (and green belt is not relevant to Swale) and are therefore not considered to be indicators of landscape value. • The applicant is not clear why landscapes valued by local authority designation for example as AHLV are considered at the same level as Green Belt and TPOs and why they are only given a Local Value. This is the case for the Swale AHLV which is part of a larger designation along the whole of the North Kent Marshes and is therefore established as more than local value.	The Applicant's view is that the inclusion of Table 7.4, and 7.5 is appropriate to include in the methodology section. Table 7.4 helps define how landscape value has been assessed; however it is agreed that references to green belt and TPOs may be unclear as they fall under the title of Landscape Designation. The title Landscape Designation may be augmented to read Landscape and Local (or Planning) Designation as both Green belts, TPO's or other such elements as Conservation Areas all contribute to understanding landscape value. In this case neither are present within the landscape and therefore it is agreed that their reference could be removed to avoid confusion. Table 7.4 is included to provide a greater understanding of the current quality of the CLS area covering much of the Graveney Marshes LCA 5 as stated in paragraph 237-239 of Chapter 7 of the ES [APP-037]. It is understood that the CLS Area lies within an AHLV; however at the time of the assessment policy DM24 of the Swale Local plan recommended further review was undertaken, and therefore in the absence of such review it was assessed that it would be appropriate to assess the value of the CLS area further, not in relation to defining the boundaries of the AHLV as this is clearly defined by policy DM24 and is not within the scope the LVIA, but simply to assess the value of the CLS area at

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		the time of assessment. This in turn enabled a better understanding of the impacts upon the AHLV to appreciate the functional relationship to the wider designation and how effects upon a defined part of the AHLV would impact upon the wider AHLV having assessed that the effects upon the wider AHLV were low. If the sensitivity of the assessment was increased to Medium sensitivity based on the comments received, and the nature of effects remained as moderate then the effect would be increased from Minor/Moderate which is not significant to Moderate which is significant; however accounting for professional judgement and an assessment of the wider landscape of the AHLV, the applicant maintains that the effects of the proposed development upon the remaining AHLV is not significant as there would be minimal visibility and negligible change to the AHLV as a whole.
Magnitude of landscape effects		
18	• Size/scale – it would be easier to understand this table if it referred to characteristic specific to this development type rather than for example 'tall structures'. • Geographical extent – it is not clear how this works in practice – 'change will affect all of the landscape receptors' 'medium extent of landscape receptors (table 7.8)'. It is not correct to say that a change has to affect a whole character area to have a large effect. • The way geographical extent is presented is difficult to interpret for this very large development site. A change defined here at the 'site' level i.e. identified at the lower end of the scale' is in fact a large change in geographical extent in landscape terms.	Reference to tall structures is simply an example to help the reader understand what may be altered within a landscape with reference to GLVIA3. In the applicants experience it is easier for readers to understand diverse change as referenced in GLVIA3 and where appropriate to use those examples referenced in GLVIA3 to provide a clear and consistent approach. Indeed what constitutes a tall structure is in any case subjective as many people (as evidenced as part of the DCO process) understand the introduction of solar panels of 3-3.9 m to be tall structures and therefore such a description would seem appropriate to enable the reader to understand the size and change to a landscape. Sections 7.2.8.2 paragraph 54 of the ES chapter 7 [APP-037] provides a summary of how geographical extent may be considered as defined in GLIVI3 Paragraph 5.5. Table 7.8 highlights the extent over which the changes will be felt as opposed to the size or scale of the effect and is relative to the receptor. For example the CLS area is almost entirely covered by the proposed development and whilst the nature of the development is considered by the applicant to be relatively low 3.0 -3.9 m the area covered by the Development is large, consisting of part of or the majority of Graveney Marshes LCA 5 for instance. Therefore the assessment of the geographic extent of the proposed development is large as the effects cover a large geographical extent. Were the development to occupy a small part of LCA 5, due to the nature of the development the effects would be considered small or negligible. Conversely were the development to be a taller structure such as a wind turbine for example then it may occupy only a small section of the site but effect a large geographic extent of that receptor or others. Therefore the methodology is assessed to be accurate; however the examples provided may be removed for the purpose of clarity.
Significance		
19	• 'Moderate effects' are now correctly considered to be significant as well as those of 'moderate major' and 'major'. It is not necessary to state that 'a significant effect of a particular receptor does not necessarily	Iin response to the statement that; 'it is not necessary to state that 'a significant effect of a particular receptor does not necessarily indicate that the overall development is unacceptable', the Applicant believes this helps the reader to understand references made in relation to conclusions within

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	indicate that the overall development is unacceptable"	the LVIA where identified significant effects are found but the 'landscape' in the round is deemed able to accept such change.
Summary		
20	The majority of changes identified in relation to the method have been taken into account in the LVIA chapter. It is also useful to note that landscape and visual effect defined as 'moderate' are also now deemed to be significant in line with other chapters in the ES. Overall the methodology follows GLVIA3 and appears fit for purpose, albeit with comments particular in relation to interpretation of landscape value and geographical extent for this very large scale development. There remain some questions over how the method is applied in practice and results are interpreted, as set out below.	The Applicant notes these comments.
BASELINE		
Landscape Planning Policy Context (7.3.1)		
21	It is helpful that the fact of the site lying within an 'Area of High landscape Value' is established in this section under Policy DM24 of the Swale Local Plan.	The Applicant notes these comments.
Landscape Character (7.3.2)		
22	This is a comprehensive section with wide scope. Key points are noted below: • The LCA text for Graveney Marshes Landscape Character Area 5 (where the site is located) also references other characteristics relevant to this particular assessment including 'inaccessible landscape' 'sense of remoteness' 'panoramic views'.	The Applicant notes these comments.
Landscape and visual context (7.3.3)		
23	This is the CLS and refers to the site. It appears to be an accurate description, although the following points are noted: • In para. 195, the text notes that the landscape is visually contained partly as a result of the flood defence embankment. While this is to an extent true the overriding consideration must be that the landscape is visually exposed to people as a result of the well- used regionally promoted route of the Saxon Shore Way running on top of the embankment. • Para. 227 The seascape to the north of the CLS forms a visual focal point in the landscape (it is unclear how it is a focal point, a focal point from where and why it should be any more of a focal point than the CLS). • Para. 227 230 Containment due to the flood bank see comments for para. 195 above	With reference to paragraph 195 (ES Chapter 7 [APP-037]) the Applicant agrees with the statement, 'While this is to an extent true the overriding consideration must be that the landscape is visually exposed to people as a result of the well- used regionally promoted route of the Saxon Shore Way running on top of the embankment'. Paragraph 195 was stated in reference to the wider landscape being contained by the large flood defence, with paragraph 218 stating reference to the Saxon Shore Way and Associated views: 'The Saxon Shore Way LDF ZR484 (CW55 within the Canterbury boundary and ZF32 and ZF1 on the opposite side of Faversham Creek) runs adjacent to the western and northern boundary of the CLS Area. The Saxon Shore Way runs along the top of the flood defence enabling visual receptors views across the CLS Area and the 5 km Study Area including views across the Swale. The route of the Saxon Shore Way is currently proposed by Natural England to become part of the "England Coast Path", which covers the stretch of coastline between Whitstable to Iwade. The Saxon Shore Way is 262 km in length, with 7 km of the path being adjacent to the CLS Area'.

Ref.	Statement	Applicant's Comment
Landscape Value of the CLS (7.3.4)		
24	The Reference to Technical Paper 6: Interim Review is correct although it is noted that the 2019 update of Swale Local Landscape Designations now supersedes this paper (recognising that this may not have been available at the time of the ES) and concludes that the Local Designation should be retained in this area. It is an AHLV and therefore it is unclear why table 7.18 presents an alternative assessment of the current landscape value of the CLS area using GLVIA Box 5.1 criteria. In our opinion this table is skewed and emphasises negative characteristics such as 'featureless' ' uniform' 'sparse vegetation' 'power lines' and implies that people walking on the Saxon Shore Way on the flood bank are more inclined to look north to the sea rather than enjoy the entire landscape.	The Applicant acknowledges that the 2019 update of Swale Local Landscape Designations now supersedes Technical Paper 6: Interim Review and confirms that this was not available at the time of the ES. The Applicant has provided clarification to the use of Table 7.18 (referenced against the methodology for such assessment being table 7.5) in the response to paragraph 17 above. The assessment is based on the professional judgement of the Applicant and the Applicant stands by the assessment.
25	Nevertheless, para 244 does conclude that the site is valued at the Local level, however, it goes on to qualify this by saying it is at the lower end of the scale due to being featureless, dominated by intensive agricultural use and the presence of physical detractors. This is an unnecessary qualification. The point of this section is not clear. The LVIA baseline should accept this site is part of a locally designated landscape, rather than seek to downgrade it at the outset. In our opinion it is of more than Local Value since the CLS is an integral part of the much larger wider Kent Marshes.	The Applicant has provided clarification to this aspect in response to paragraph 17 above. Paragraph 244 assesses the CLS area and does not attempt to downgrade the AHLV. The applicant confirms the LVIA accepts the AHLV; however clarification of professional judgement in this paragraph is considered appropriate.
Visual Baseline		
26	Residential receptors are usefully provided with a link to the Residential and Visual Amenity Assessment (RVAA). This section does not contain any reference to the ZTV. It should identify the visual receptor groups first prior to selection of viewpoints to represent these views. Visual receptors are not clearly identified.	The LVIA (ES Chapter 7 [APP-037]) provides further clarification in section 7.2.4, alongside further clarification of properties selected as part of the RVAA in section 3.1.1 (ES Appendix A7.4 [APP-210]). It is acknowledged that further clarification could be provided with reference to the ZTV. This is more prevalent following the issue of the Landscape Institute Technical Guidance Note relating to: Residential Visual Amenity Residential Visual Amenity Assessment (RVAA) Technical Guidance Note 2/19 dated 15th March 2019.
27	The 22 viewpoints appear to be appropriate. Further information on the reasoning behind certain viewpoint being selected for visualisations/photomontages would be useful.	The Applicant notes these comments.
Future Baseline		
28	The section could helpfully refer to the Shoreline Management Policy for this area. The Environment Agency's Draft Medway Estuary and Swale Strategy propose a policy of managed realignment for this area.	The Applicant notes these comments.
Summary		
29	The baseline is substantially correct although there are questions on how the AHLV is dealt with. The assessment of landscape value (7.18) remains unclear.	The applicant has provided clarification to the use of table 7.18 in paragraph 17 above.

Ref.	Statement	Applicant's Comment
Development Design Mitigation		
30	Under section 7.4 the LVIA summarises the measures to mitigate and enhance landscape and biodiversity (see also Technical Appendix A5.2), and improve the integration of development. As noted in the review of the PEIR this is presented prior to the assessment of effects so that the link between impacts and mitigation is not clear. No further mitigation is described following the assessment. It would be useful for the applicant to clarify whether there are measures that could mitigate any of the identified significant impacts on landscape and visual resources. We have assumed that there are no measures that could provide further mitigation such that effects are considered not significant.	It is correctly asserted that no measures that could provide further mitigation such that effects are considered not significant have been identified. Mitigation planting to screen views of the development have been considered; however it is assessed that the introduction of such screening would change the landscape character of the CLS area, and potentially remove the functional linkage to the AHLV. Should proposed mitigation be retained following decommissioning then the effects of the proposed development following decommissioning would create a positive addition to the landscape over and above the current baseline.
31	As noted in the comments in the PEIR the proposals for additional hedgerow, woodland and tree planting, although their extent is very small in comparison to the size of the solar development and the overall landscape benefit is considered to be limited. It remains the case that screening planting is generally not a positive feature in the landscape which is characterised by its long views and openness. It is also disputed whether scrub planting around and between solar panels would add to the character and sense of wildness and enrich the grassland as stated in the ES.	It is considered that screen planting within the site is suitable as clarified in the response to paragraph 9 above.
Assessment of landscape effects		
32	The section of the LVIA provides a narrative describing the likely effects at construction, operation and decommissioning. This is provided in tabular form in Technical Appendix A7.2 and both the LVIA chapter text and the Technical appendix are referred to below. The following review concentrates on the operational effects of the development and sets out the main areas where we consider greater clarity is required in the assessment judgements.	The Applicant notes these comments.
33	There are some overriding points in the narrative which remain unclear: The presentation of information referring to the CLS is confusing for the reader. We understand this to be the site itself. The CLS is therefore a large area encompassing almost the entirety of one landscape character area. • There is some misleading wording for example stating that the development is low in height, and in comparison to the pylons and telegraph poles. We do not consider that a development of up to 3.9m can be described as low. Pylons and telegraph poles are a very different type of structure for comparison purposes. A development of this horizontal extent and the height of a pylon is inconceivable.	The Applicant confirms that the CLS area refers to the site itself. The solar panels vary in height across the site ranging between 3.0 and 3.9m. The applicant agrees that the panels cover a large area; however where the panels are visible from long range views; such views are towards part of the site where in the view composition they are barely perceptible within this landscape. Reference to the proposed pylons are to establish the baseline context and are important to recognise as they form the largest vertical elements within this low lying landscape, and traverse the study areas . They form visual detractors in the landscape and a unifying visual feature. Such features are assessed throughout the LVIA chapter alongside other

Ref.	Statement	Applicant's Comment
	• Throughout, the assessment text frequently refers to the horizontal low lying nature of development to justify conclusions which is incorrect. It should be clarified to state that in views from the elevated sea wall the development sits lower within the landscape. • The LVIA still includes some judgements without clear justification in relation to judgements in value, susceptibility and magnitude of change which makes it more difficult to interpret. • A.7.2 describes 'magnitude' at year 1, 5 and 10 – we assume that this refers to the level of effect and not the magnitude of change which is covered elsewhere in the table. • The purpose for assessing each of the landscape value criteria in table B1 (Appendix A7.2) is not clear. The ES should explain why they have been assessed. • Assessment of magnitude of change in the LVIA text appears to be focussed on the extent of the landscape receptor that the development would cover rather than effect on character and susceptible characteristics. In our opinion this has the effect of underestimating impacts.	landscape detractors such as Cleve Hill substation. Such assessment is balanced by positive landscape features relating to perceptual qualities of the site and the nature of the landscapes within the study area. The LVIA (ES Chapter 7 [APP-037]) section 7.5.2.1, paragraph 279 demonstrates an example of such comparison which is considered to be a clear and accessible paragraph. In relation to comments relating The following comment 'frequently refers to the horizontal low lying nature of development to justify conclusions which is incorrect', the cross sections provided at Deadline 3 [REP3-027] demonstrate potential visibility of the Development from relevant local viewpoints and what is considered to be an expansive but low lying development. Further updates to these cross sections have been provided in response to ExQ2.6.2 at Deadline 4 (document reference 12.1.1). The Applicant confirms that at A7.2 'magnitude' at year 1, 5 and 10 refers to the level of effect. The purpose for assessing each of the landscape value criteria in table B1 (Appendix A7.2) is to illustrate the assessment process undertaken in order to assess sensitivity alongside a narrative for the assessment undertaken. It was assessed that this would make the assessment more transparent. The LVIA (ES Chapter 7 [APP-037]) section 7.5, paragraph 268 references this. Comments made in relation to magnitude of change a detailed explanation has been provided in Reponses to ExQ2.6.3.
Landscape Effects Arising from the Operational Phase		
33	The CLS • We suggest that this area is of higher sensitivity, than Medium. We agree that there would be a Major effect which is significant. • The A7.2 Table B1 assessment of the sensitivity of each of the criteria for assessing landscape value seems to be an entirely superfluous and circular process and is not required. The landscape value of the CLS is already established through its designation.	The Applicant stands by the assessment of the CLS Area as per section 17 above, and confirms that it is assessed as medium - high sensitivity. The Applicant does not agree that the assessment of landscape value undertaken is superfluous as it helps to form an assessment of sensitivity relative to the specific components of the landscape as part of the applicant's assessment of sensitivity. The Applicant recognises the CLS Area designation (AHLV) as part of their assessment of this local landscape designation, determining sensitivity to be high.
34	National (NCA) and Regional (RLCA) • It is not accurate to simply state that because the NCA or RCLA is not a designation it is assessed as being of Community Value. This is inappropriate as the NCA and RCLA may contain many areas of valued landscape and indeed in this instance does contain valued and locally designated landscapes. • Simply because the development only affects a small proportion of these large areas is not a reason to state that effects are not significant. It is not the extent of the national area that covers but effect on its character.	Landscape character areas designated at a national scale have a role to play in providing general context. Local landscape character assessments have been published by regional and local authorities which contain a greater level of detail by subdividing the nationally extensive character areas into smaller, discrete landscape character areas (as referenced in the LVIA (ES Chapter 7 [APP-037]) section 7.2.7.3, paragraph 49). This has led to the conclusion that National Character Areas are not likely to be significantly affected by the Development as a whole. However, guidance within the NCA on landscape opportunities and trends are referred to and reviewed as part of the development of the mitigation proposals.

Ref.	Statement	Applicant's Comment
35	Swale LCA 5 Graveney Marshes • Since this development covers the entire area it is safe to say that the effect will be Major (not Moderate/Major). • The LVIA is incorrect in assigning this area a 'Community Value' where the baseline has already established that it is within an AHLV – Area of High Landscape Value as a Local Landscape Designation. • The assessment suggests that sensitivity of LCA 5 is Medium in para 291 and High in para 292. We suggest that it should be High.	The Applicant stands by the assessment landscape value. The sensitivity of the landscape character area is medium, being of community value and high susceptibility, with a substantial magnitude of change, and therefore the effect would remain major/ moderate. The LCA is at a community level regardless of the wider landscape designation, this is assessed separately in the LVIA (ES Chapter 7 [APP-037]). A separate assessment of LCA's is undertaken as part of the LVIA to understand any variation of character within the landscape at a different scale to that of the AHLV. The Applicant's view is that paragraph 292 should be Medium.
36	Area of High Landscape Value (Policy DM24) • The assessment text once again states that the horizontal and low-lying nature of the Development would retain open views across the AHLV including from the Saxon Shore Way. This cannot be the case as views will be to a large solar farm and not 'open views'. • The AHLV is described as being of Local significance for Kent – we confirm that it should be assigned greater than Local significance. • It is not clear why the sensitivity is high for the CLS area and low for majority of the AHLV. The sensitivity should be the same for the entire AHLV – although the effects may vary with distance from the development. • Visual containment by the flood defence is not to be relied on as the flood bank also creates visual exposure for people across the development. It is not correct to say that the development would retain open views from the Saxon Shore and it is important to note that the Saxon Shore Way is in the AHLV and not outside it. • It is not correct to say that the relevant characteristics of the landscape are generally able to accommodate the development and therefore susceptibility is Low (as stated in A7.2 and contradicts other text). • It is not clear why the effects are different for the areas of the AHLV within and outside the CLS • It is considered that effects on the AHLV are Major (within and outside the CLS) and not Major/Moderate and Moderate/Minor. A7.2 is especially confusing with regard to the AHLV which assess effects as Moderate. • The table describing the magnitude of change relating to the different criteria used to assign landscape value is difficult to understand and unnecessary although does indicate all affects to be substantial at operational phase.	Further clarification is provided in section 17 above. Open views across the AHLV and wider landscape would be maintained, albeit that the view composition would change with the introduction of solar panels in the CLS area.
37	Area of High Landscape Value (Policy LB2) • Despite being in different LPA area and subject to different policies (Swale and Canterbury), this is essentially the same local landscape designation. While it might not be	The Applicant notes these comments.

Ref.	Statement	Applicant's Comment
	possible to see the development at 1km distance from the site – this will be a very large development in the context of the whole designation along the North Kent Marshes which is for the most part entirely undeveloped.	
38	Decommissioning 2.16 Given that effects of the solar panel development are negative it is unclear why the removal of solar panels is also considered to be negative.	The effects are negative in the short term during construction and until the landscape adopts a more settled appearance, together with the removal of mitigation planting established as part of the solar park.
Summary		
39	Some judgements are not clearly justified and there remains some qualification stressing that development would 'fit' this landscape. There is confusion in the way results are presented in relation to landscape value. The landscape value of the area should also be recognised in the judgements for the CLS and relevant LCA and not just the AHLV.	The Applicant notes these comments.
Assessment of visual effects		
40	The following review concentrates on the operational effects of the development and sets out the main areas where we consider greater clarity is required in the assessment judgements. Effects on residential receptors are reported in the RVAA (Technical Appendix A7.4) and are not considered further here.	The Applicant notes these comments.
41	Significant visual effects of moderate are above are reported for the National Cycle Network, Saxon Shore Way – proposed England Coast Path (ZR484), PRoW ZR485 and ZR488. These are considered to be correct, although the following points are noted.	
42	Saxon Shore Way • We agree that there will be a major effect. The assessment text does not set out sensitivity which for walkers we consider would be high. It is noted that the path will be adjacent to the development for approx. 5km. Walkers enjoying this route will therefore see the development for 1 – 2 hours. • It is not necessary to qualify the judgement that for the vast majority of the Saxon Shore Way there will be no visibility of the development at all. Most recreational receptors will be enjoying this part of the route as part of repeat recreational visits and not walking the whole route.	The LVIA (ES Chapter 7 [APP-037]) section 7.6, paragraph 327 defines sensitivity for walkers as high. The Applicant asserts that whilst the effects of the Development upon visual receptors should not be down played it is also correct to clarify where there is an absence of view as part of the sequential nature of views of the Development for walkers along this route.
43	PRoW ZR485 • We agree that here will be a significant effect for recreational receptors. The LVIA records Major/Moderate but in our opinion it will be Major given that the ProW runs through the development and will be contained and enclosed by panels. The reasoning behind the sensitivity of walkers on this route being only medium is unclear. It should be high.	The LVIA (ES Chapter 7 [APP-037]) methodology in table 7.11 and 7.12 help to define the sensitivity of receptors along this route alongside professional judgement. It is assessed that the value of the view is assessed as medium and the susceptibility is Medium creating a Medium sensitivity. Table C1 in Appendix A7.3 shows susceptibility as high, this should be medium. The receptor sensitivity is assessed as medium as the view is assessed to be of moderate interest and is assessed alongside large expansive views and the presence of visual

Ref.	Statement	Applicant's Comment
		and perceptual detractors (noise from power lines). This is assessed together with a medium value view, as the view is assessed to contain qualities recognised within the AHLV such as a flat empty, low lying landscape, assessed alongside visual detractors which the receptors pass under, or in close proximity to for parts of the route, albeit such views are lost as the receptor passes these features to the north and south where views of detractors are successive in nature.
44	PRoW ZR488 • We agree with the assessment of significant effects for recreational receptors along this route.	The Applicant notes these comments.
SUMMARY		
45	Some judgements are not clearly justified and require the reader to refer to the Technical Appendix. Some results are qualified, for example the fact that the development will only be seen along a small part of the overall Saxon Shore Way (Gravesend to Hastings) when most recreational receptors will be making walks as repeat visits along this part of the route and are likely to see the development for the entire duration of their journey.	The Applicant notes these comments.
Summary and conclusions		
46	Section 7.9 of the LVIA presents a summary of effects. Document 6.51 of the ES sets out the Non-Technical Summary (NTS). This chapter reports our overall conclusions.	The Applicant notes these comments.
Summary of Effects		
47	The summary seeks to minimise the extent of significant effects by inserting a large number of qualifiers such as: "low lying character of the Development" "contained by the flood defence" "Low lying horizontal nature of the development" • Emphasis on existing infrastructure on the site such as pylons and sub-station which is inappropriate since they are an entirely different scale and form • Stating the positive effects of enhancement measures such as creation of grazing marsh which are only a very small proportion of the overall site" • Over reliance on mitigation to limit effects and integrate development into the local landscape which overlooks the scale of the development in relation to the amount/type of mitigation proposed	The Applicant maintains that this section is appropriate to provide statements of professional judgement to help justify a summary of the assessments. It is also correct to clarify elements found within the landscape that form detractors. It has been clarified that mitigation cannot mitigate all effects, and that significant effects persist. It is the components of the landscape as a whole that limits the effects to that of the local landscape, and this does not down play the scale of the Development, it simply purveys an understanding of the landscape in the round.
48	Furthermore it does not accurately report the judgements recorded in the LVIA, as set out below.	The Applicant notes these comments.
49	Landscape Effects • Inaccurately summarises overall Moderate effects on the AHLV which does not describe conclusions in the LVIA • Reports significant effects (Major) on LCA5 Graveney Marshes but fails to record the Major effects on the CLS – which provides a major part of the assessment in 7.5.21.	The Applicant confirms that overall effects upon the AHLV are assessed as Moderate/minor with major/moderate effects limited to the CLS Area only. Reports major/moderate effects on LCA 5 consistent with the CLS Area; however effects should read Major/Moderate as opposed to Major in paragraph 464 of the LVIA (ES Chapter 7 [APP-037]).

Ref.	Statement	Applicant's Comment
50	Visual Effects • Makes an obvious statement that operational effect on visual amenity will be greatest close to the CLS area. • Records that views will remain 'open' from the Saxon Shore Way when in fact there will be views to the solar development experienced by recreational receptors for some 5km along this route. Noting that for most recreational receptors this is likely to be for the entire duration of their visit to this part of the Shore Way.	Further clarification is provided in the response to paragraph 17 above. Open views across the AHLV and wider landscape would be maintained, albeit that the view composition would change with the introduction of solar panels in the CLS area.
51	This records significant effects on the Saxon Shore Way and residential properties. It does not refer to the significant effects on either the AHLV or the relevant landscape character area, identified in the LVIA replacing this with more general text about the CLS Area. This is an omission.	The LVIA (ES Chapter 7 [APP-037]) paragraph 466 confirm that the presence of significant effects within the CLS area; however it is accepted that this could be clearer.
52	The purpose of this statement is unclear as rather than reporting the result of the LVIA it seeks to justify the development – which is not the purpose of the ES. For example in para 482 its states: "Whilst the Development introduces man-made structures across a large proportion of a large area of land the uniform arrangement of Development in what is assessed as an open and featureless landscape; together with the low profile of the majority of the Development introduces what has been assessed as a quantum and type of development this landscape can accommodate due to the low-lying horizontal and uniform nature of the Development together with mitigation planting. The sense of openness, remoteness and tranquillity will remain in all locations except within the area where solar PV modules and the electrical compound are located".	The statement is provides a summary of the findings of the assessment incorporating professional judgement.
53	This concluding statement is clearly circuitous and illogical for a number of reasons: • The LVIA itself identifies significant landscape effect for a number of receptors so that it is inaccurate to describe it as being able to accommodate such development. • The entire CLS area is mostly filled with development and therefore it does not make sense to say remoteness and tranquillity will be maintained within it in all areas except where there is development. • It is not an open and featureless landscape – this is just one characteristic that is presented in a negative way here. It does not describe the positive characteristics that are adversely affected by the development. • Mitigation planting appears to overlook the scale of the solar panels compared to the scale of planting proposed. • The development at up to 3.9m height cannot be described as low profile.	The Applicant notes these comments.
54	Finally the statement concludes that: "The	The Applicant notes these comments.

Ref.	Statement	Applicant's Comment
	effect of the development will be highly localised especially given the scale of the development and have limited geographical extent in which the development will be seen or will affect the landscape, and are therefore it is considered to be acceptable from a landscape and visual perspective".	
55	Our comments on this statement are as follows: • The purpose of the LVIA is to report significant effects and not go on to make a judgement on whether they are acceptable or not. • The statement relating to a limited geographical area is disingenuous as while it may be the case that significant effects do not extend far beyond the site boundary, the area physically impacted by the development is very large. • The scale of the development is not clearly acknowledged – it virtually fills an entire character area. There are very few developments of such a scale and even small developments within a small part of a character area can have significant effects. • It is inappropriate to conclude that landscape and visual effects are 'highly localised' as this does not take into account the overall scale of the development such that impacts occur over the entirety of the development area.	
Non-Technical summary		
56	The Landscape and Visual Effects of the development are reported in the Non-Technical Summary of the ES (document Ref 6.51). This reports the significant effects on landscape and visual receptors. There are a number of points to note: • Para. 105 reports that the flood bank removes the visual relationship with the Swale. This is true to an extent but for the main visual receptors - people walking along the Saxon Shore Way on the flood bank - the opposite is true in that it provides a wide view across the Swale and the development site, which are viewed together. • Para. 110 emphasises the significant effects would have the most influence on landscape and visual receptors within a short distance of 1 km from the solar park site. Again this is true, however is fails to record the enormous extent of the site itself, some 491.2 hectares (ha), and extending 2.9km across in an east to west direction and 1.7km in a north south direction.	The Applicant notes these comments.

2.4 REP3-055 Swale Borough Council

Table 2.4: The Applicant's Comments on Swale Borough Council's Written Representation

Ref.	Statement	Applicant's Comment
Swale Local Landscape Designation Review and Recommendations – Recommended boundary change at Cleve Hill		
1	In response to Action Point 1 arising from the Issue Specific Hearing 1 dealing with matters relating to Need, on 17th July 2019, please find attached an extract from the Swale Local Landscape Designation Review and Recommendations document (October 2018) regarding the review of the area around the existing Cleve Hill substation. The extract relates to the North Kent Marshes – South Swale Marshes area, where Cleve Hill is located.	The Applicant notes this submission and has taken this into account in responding to the LUC review of the LVIA set out in Table 2.3 of this document.
2	The section of relevance, on page 51 (the third page of this extract), is highlighted in yellow and explains the recommended boundary change around Cleve Hill. In essence, the Review and Recommendations document recommended that for reasons of different 'landform and land use' that Graveney Hill and Cleve Hill, including the large substation development, should be removed from the LLD (local landscape designation).	
3	Also attached are zoomed in screen shots of the relevant GIS layers of the area which show the recommended new boundary in detail. Please note the map included in Review and Recommendations Report (seventh page of the extract) contains an error in this location, however, the GIS layers are correct, as confirmed with the consultants who carried out this review, LUC, last week.	
4	The Swale Local Landscape Designation Review and Recommendations document was reported to the Swale Local Plan Panel in November 2019, where the recommendations were agreed by the Panel. Details of the Local Plan Panel can be found here.	

2.5 REP3-056 Swale Borough Council

Table 2.5: The Applicant's Comments on Swale Borough Council's Written Representation

Ref.	Statement	Applicant's Comment
Written submission from Swale Borough Council regarding net biodiversity gain and the relevance of new PPG guidance issued on 21 July 2019 for Deadline 3.		
1	Further to the Council's brief oral submissions at Issue Specific Hearing 4 relating to biodiversity and nature conservation on Thursday 25th July, I am following up our comments with some brief details on the issue of environmental net gain in light of the updated guidance in the Natural Environment section of Planning Practice Guidance released last weekend (21st July 2019).	This issue is addressed in the Applicant's written summary of issue specific hearing 4 [REP3-017], in the Applicant's response to ExQ2.1.1 (Deadline 4 submission document reference 12.1.1) and the submission of updated biodiversity metrics 2.0 using the latest DEFRA methodology (Deadline 4 submission document reference 12.5.8).
2	The new guidance is relevant in its explanation around securing environmental net gain - an objective of the updated NPPF. The guidance explains that net gain is 'an umbrella term for both biodiversity net gain and wider environmental net gain' (Paragraph: 020 Reference ID: 8-020-20190721, Revision date: 21 07 2019) and that 'the aim of wider environmental net gain is to reduce pressure on and achieve overall improvements in natural capital, ecosystem services and the benefits they deliver.'(Paragraph: 028 Reference ID: 8-028-20190721, Revision date: 21 07 2019). This accords with the spirit of adopted Swale Borough Local Plan policy DM 28 (point 6) which seeks a net gain in biodiversity from development, not simply no net loss. You will appreciate that I referred to this policy as especially relevant in the context of there being no applicable NPS for solar or energy storage development.	Updated biodiversity metrics 2.0 using the latest DEFRA methodology have been prepared (Deadline 4 submission document reference 12.5.8). This document demonstrates a biodiversity net gain of 65% using the latest methodology (the previous version of the methodology presented at Deadline 2 [REP2-045] gave an output of 15% net gain). Subsequent sections below address wider environmental net gain.
3	In the Council's view the above explanation in the new guidance is useful and relevant to the Cleve Hill Solar Park NSIP examination and an assessment of whether this development will achieve overall improvements in natural capital, ecosystem services and the benefits they deliver. The ecosystem services offered by this site (particularly with managed realignment) could include carbon storage, wildlife habitat provision and flood risk mitigation. Whilst metrics for measuring Biodiversity Net Gain have been developed, the PPG explains that the metrics for assessing whether or not environmental net gain has been achieved are still in development. This obviously makes it difficult to use, but our informal discussions with Natural England suggest that if the applicants are able to prepare some evidence	DEFRA consulted between December 2018 and February 2019 on Net Gain in the terrestrial planning system[2], and published a summary of responses and the government response in July 2019[3]. Page 5 of the response document notes that NSIP development will remain out of scope of the mandatory requirement in the Environment Bill. Page 7 of the response document sets out that environmental net gain policy is the subject of continued exploration, and that the biodiversity net gain approach has been designed to encourage wider environmental gains. Notwithstanding the clearly evolving approach to environmental net gain, Figure 2 on Page 16 of the consultation document sets out potential measurable examples of areas of environmental net gain, which include: • Wildlife habitats (as measured by the Defra

[2] DEFRA (2018). Net Gain Consultation Proposals. Available at: https://consult.defra.gov.uk/land-use/net-gain/supporting_documents/netgainconsultationdocument.pdf [accessed 13/08/2019]
[3] DEFRA (2019). Net Gain Summary of responses and government response. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/819823/net-gain-consult-sum-resp.pdf [accessed 13/08/2019]

Ref.	Statement	Applicant's Comment
	on the issue of whether the Cleve Hill Solar Park offers overall environmental net gain this might allow Natural England to comment further.	biodiversity metric) • Protected species' habitats / populations • Water quality regulation • Places for recreation • Carbon storage and sequestration • Flood water regulation • Wildlife for enjoyment and appreciation The same figure on page 16 also sets out examples of direct and indirect measurable natural capital pressures, including: • Energy efficiency • Water efficiency • Transport efficiency • Waste and recycling efficiency • Construction materials and processes • Light and noise pollution • Recreation impacts on protected sites The Applicant has undertaken an EIA, reported in an ES, which assesses the environmental impacts of the Development and considers that this forms an appropriate basis for an appraisal of the environmental net gain resulting from the Development. The adverse environmental impacts of the Development are reported in the ES. In the specific context of the natural capital pressures as set out above, the adverse impacts of the development are predominantly short-term impacts during the construction phase. In the context of measurable areas of environmental net gain, the predominantly beneficial impacts of the Development are long-term beneficial effects during the operational phase. Where adverse impacts have been predicted to occur, e.g., to protected species, mitigation has been proposed to ensure a neutral outcome, or net gain for those species. It is relevant to the consideration of wider environmental net gain that the purpose of the Development is to address the causes of climate change and its associated environmental impacts through the generation and storage of low carbon electricity. SBC make a comparison between the Development and the baseline, as well as EA's proposals for managed realignment on the Cleve Hill site. The Applicant notes that the consultation draft of the MEASS set out that managed realignment is unlikely to occur prior to 2039 so any benefits and impacts in this regard would not occur until after 2039. In terms of the three specific areas highlighted by SBC: • Carbon storage - The Applicant submitted a written representation on carbon dioxide offset and sequestration at Deadline 3 [REP3-025] which demonstrated that the Development is a better option for decarbonisation at this location than managed realignment or the existing arable land use;
4	By way of background to this issue, paragraph 8 of the NPPF states: *'Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives [economic, social and environmental]):* Paragraph 118 goes onto say: *'Planning policies and decisions should: a) encourage multiple benefits from both urban and rural land, including through mixed use schemes and taking opportunities to achieve net environmental gains – such as developments that would enable new habitat creation or improve public access to the countryside; b) recognise that some undeveloped land can perform many functions, such as for wildlife, recreation, flood risk mitigation, cooling/shading, carbon storage or food production;*	
5	As an explanation of what wider environmental net gain is and how it can be achieved, the newly issued PPG advice now sets out (see Paragraph: 028 Reference ID: 8-028-20190721, Revision date: 21 07 2019): *'The aim of wider environmental net gain is to reduce pressure on and achieve overall improvements in natural capital, ecosystem services and the benefits they deliver. For example, habitat improvements can provide a range of benefits such as improvements to soil, water and air quality, flood risk management and opportunities for recreation. In planning strategically for the enhancement of natural capital, planning authorities can draw upon evidence on natural capital assets, the supply and demand of ecosystem services flowing from them, and existing and future risks and opportunities for these services. A number of metrics to measure and monitor aspects of wider environmental net gain are under development'.*	
6	The Council appreciates that this guidance is limited, but it suggests that this is a matter that merits further consideration by the applicant and the Examining Authority.	

Ref.	Statement	Applicant's Comment
		• Wildlife habitat provision - The Development has been designed to result in net gain for biodiversity and habitats relative to the existing land use, as measured by the updated Biodiversity Metrics 2.0 (Deadline 4 submission document reference 12.5.8) and secured through the latest version of the Outline LBMP [REP3-005]. The latest DEFRA biodiversity metric calculator does not include coastal and intertidal habitats, so the biodiversity gain of managed realignment cannot yet be compared directly, although it would be expected to result in significant biodiversity benefits relative to the existing baseline, but also losses of valued habitats such as the freshwater habitats (e.g., reedbed) landward of the seawall. The ability to quantify coastal habitat creation is expected as an update to the biodiversity metrics calculator later in 2019; and • Flood risk mitigation - managed realignment at the Cleve Hill site would not be designed to directly mitigate flood risk - it is designed to mitigate for coastal squeeze, therefore the Applicant does not agree that managed realignment at Cleve Hill provides natural capital benefits which are not realised by the Development in terms of flood risk mitigation. In the absence of detailed guidance on a quantitative approach to environmental net gain, as also acknowledged by SBC, the Applicant believes that the qualitative approach set out above is appropriate, and is confident that the Development represents substantial environmental net gain over the existing baseline, and is also a preferable to managed realignment over the anticipated 40 year operational phase of the Development as managed realignment is unlikely to take place earlier than 2039 under any scenario. The Applicant is aware of the ongoing development of Natural England's "Eco-metric" approach[4] and associated spreadsheet based tool, but considers that it is unlikely that the tool will be available during the examination. The requirement is therefore unlikely to become a mandatory requirement in adopted policy in the near future.

[4] https://ecosystemsknowledge.net/ecometric

2.6 REP3-062 CPRE Kent (Biodiversity)

Table 2.6: The Applicant's Comments on CPRE's Written Representation on Biodiversity

Ref.	Statement	Applicant's Comment
CPRE Kent additional submission on biodiversity for deadline 3		
Hazel dormouse (Muscardinus Avellanarius)		
1	Dormice are afforded full protection under Schedule 5 of the Wildlife and Countryside Act 1981, as amended. Protection to the species is also afforded by Schedule 2 of the Conservation (Natural Habitats &c) Regulations, 1994, making the hazel dormouse a European Protected Species. These two pieces of legislation operate in unison, however, there are some minor differences in scope and wording.	The Applicant is aware of the legislation relating to hazel dormice and their UK status. Hazel dormice are incredibly elusive animals associated with deciduous woodland and dense scrub with hedgerows providing linkages between food sources and foraging habitat. Whilst active they will spend most of the spring and summer up in tree branches, rarely coming down to the ground, except in winter when hibernating. They predominantly eat buds, hazelnuts, berries and insects. However dormice will utilise a range of habitats as long as there is sufficient and suitable habitat present to support a viable breeding population. The habitat at Cleve Hill was assessed and considered to be unsuitable for use by hazel dormice due to the predominantly arable field extent, limited food density/variety available on site and, lack of arboreal cover/protection present. The watercourse ditches are dominated by common reed only with grassland banks and as such, would not provide suitable food resource, cover and therefore habitat for use by Hazel Dormice. Dormice were therefore scoped out of requiring further presence likely absence surveys. The Applicant is not in agreement that the nest identified is categorically that created by hazel dormice. This is due to the lack of suitable habitat present at both Cleve Hill and the immediate surrounds, as per the original assessment and as detailed above. The photograph of the identified nest is similar in appearance with that associated with winter wren and other small mammals including, harvest mice which are associated with cornfields, hedgerows, reed-beds, brambles, long grass and sometimes open field habitat. Most of which are located at Cleve Hill. As this nest was reported in January 2019 (PTES reference 31366) the nest would likely have been a winter nest and, harvest mice are known to stay close to the ground during the winter period for warmth and insulation. The western boundary is formed by Faversham Creek and forms a barrier to entry for site from the west for any small mammals including dormice. In the event that hazel dormice were present in the offsite habitat identified, further survey would not be considered necessary. This is due to habitat loss on site comprising arable farmland only which dormice would not be likely to utilise and which, is historically/currently cropped. The drainage ditch habitats are also not considered suitable for use by foraging dormice due to the lack of cover available, however watercourses on the west of the Development
2	Under the provisions of Section 9 of the Wildlife & Countryside Act, it is an offence to: ▪ Intentionally kill, injure or take a dormouse; ▪ Possess or control and live or dead specimen or anything derived from a dormouse (unless it can be shown to have been legally acquired); ▪ Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a dormouse; ▪ Intentionally or recklessly disturb a dormouse while it is occupying a structure or place which it uses for that purpose.	
3	Schedule 2 of the Conservation (Natural Habitats, &c) Regulations, 1994 makes it an offence to: ▪ Deliberately capture or kill a dormouse; ▪ Deliberately disturb a dormouse; ▪ Damage or destroy a breeding site or resting place of a dormouse; ▪ Keep, transport, sell or exchange, or offer for sale or exchange a live or dead dormouse or any part of a dormouse.	
4	Dormice are a Priority Species under the UK Biodiversity Action Plan (UK BAP) and has been adopted as a Species of Principal Importance in England under section 41 of the NERC Act 2006 (section 42 in Wales).	
5	A single hazel dormouse nest has been found on site by a fully NE licensed biologist (MRSB) with over 15 years' experience in surveying for dormice and other small mammals and reptiles. The location of this nest lies within the Local Wildlife Site area (LWS) grid ref. TR602100 163600. Any Dormice present are likely to disperse across the site taking advantage of any suitable habitat. Suitable habitat is likely to include along ditch edges, scrub and linked farmland/countryside to the western boundary of the site, which is likely where the dormice emigrated from initially. Dormice are a material consideration in planning and therefore, a full dormouse presence, likely absence survey should be completed (although likely presence has been established) and suitable licenses from NE sought in the event of the solar farm proceeding.	

Ref.	Statement	Applicant's Comment
		site will be fully retained and as such, were dormice (if present) to commute along them they would in turn still be able to do so post-development. The risk of committing an offence under UK and European legislation is therefore considered highly unlikely and, further survey/European protected species licencing is not considered necessary.
Marsh harrier (Circus aeruginosus)		
6	Further evidence on marsh harrier predator pressure and behaviour. Question 4. CHS have produced no tangible scientific evidence to date that demonstrates that a 16m buffer either side of the ditch network is adequate to sustain the marsh harrier so far. Therefore, will CHS increase their 16m buffer citing any scientific evidence used?	The Applicant has been unable to locate scientific evidence relating to the distance between solar arrays or similar structures that marsh harriers will utilise or be deterred from. It is therefore a subject of opinion. Small mammals are likely to form a proportion of the available prey species for marsh harrier within the Order area. For example, Dijkstra & Zijlstra 1997 highlight the likely importance of voles in marsh harrier diet on reclaimed land in the Netherlands. An analysis of the carrying capacity of the Development site in the arable baseline, compared to the with Development scenario for small mammals is provided at Appendix 2 to the Applicant's Responses to ExQ2 (Deadline 4 document reference 12.1.3). Small passerine birds, waterbirds, nestlings and amphibians also form a proportion of the available prey within the Order area. With the exception of skylark, the habitat enhancements at the site are likely to improve conditions for many of these species, but an accurate quantification of this is not feasible. The provision of additional favourable habitat, associated increase in prey species and the more sympathetic management of water levels within the Development site are all factors that are expected to have beneficial effects for marsh harrier. It is acknowledged that some individual birds may be dissuaded from utilising the site by the presence of the Development, whilst others will not. The greater availability of prey and the more favourable habitat created is expected to at least maintain the carrying capacity of the Order area at a population level. Appendices 3 and 10 of the Applicant's Responses to ExQ2 (Deadline 4 document reference 12.1.4 and 11) provide the information on the separation between arrays along the northern edge of the Development site. The Applicant is confident that the separations achieved are sufficiently wide that marsh harriers would not be deterred from entering the solar array area from the borrow dyke.
Status and protection		
7	In the UK marsh harriers are a protected species under Schedule 1 of the Wildlife and Countryside Act 1981, The Nature Conservation (Scotland) Act 2004 and are listed as Amber on the UK birds of conservation concern. It is an offence to intentionally take, injure or kill a marsh harrier or to take damage or destroy its nest, eggs or young. It is also an offence to intentionally or	The Applicant is aware of the conservation status and protection afforded to marsh harriers.

Ref.	Statement	Applicant's Comment
	recklessly disturb the birds close to their nest during the breeding season and this can result in a fine up to £5,000 and/or a 6 months sentence. Internationally marsh harriers are listed on Annex 1 of the Birds Directive and CITES and Appendix II of the Conservation of Migratory Species. The European Commission cites loss of wetlands as one of the reasons for the marsh harriers' decline and why it is protected. 1 With only 10-15 pairs across the whole of Europe.	
Predator-prey pressure		
8	CHS propose an 8m buffer zone on either side of ditches to serve as mitigation to replace the 1000 ha of farmland across the site that the marsh harrier currently employs. In our opinion this is not enough when considering the vast range marsh harriers require to hunt in. Home ranges can vary according to prey abundance.	The separation is larger than 8 m, at a minimum of 15 m either side of the bank top of ditches. The response above to point 6 provides details of additional information regarding prey abundance.
9	L Cardator et al (2009)2 state; 'Male home-range size exhibited large variation between Harriers. They go on to say; 'The marsh harrier, as with other birds of prey, is a long-lived species, usually having large home-ranges and few studies have attempted to determine its foraging area requirements….from 480 to 2000 ha for three adult harriers tracked on grasslands during winter and 349 ha for breeding and 1603 ha for non-breeding harriers tracked on grasslands….home-range size in raptors mainly depends on prey availability. www.birdwords.co.uk states that marsh harriers require a minimum of 100 ha of marsh land to hunt over during the breeding season.	The current habitat at the site is not marshland, but terrestrial, arable farmland interspersed by a network of ditches. The arable crops provide sub-optimal foraging habitat for marsh harriers with good quality habitat provided by the ditches and associated narrow grass strips at the field margins. The proposed habitat management at the site results in considerably larger extents of good foraging habitat in the form of rough grassland. The cited studies in this point do not distinguish between habitats within the range that are used and those that are not. Therefore marsh harriers using the grassland areas between solar arrays will not have a reduced range.
10	During the accompanied site visit on the 24 July, two marsh harriers were clearly observed carrying out hunting behaviour over the farmland, thus enforcing further that the farmland area is utilized by the marsh harrier and its loss is likely to have a profound negative effect. By removing this land as hunting ground and forcing the marsh harrier to hunt along what is essentially a narrow corridor for its prey, is likely to put undue pressure on prey species. The predator prey balance is likely to negatively tip against prey species and in turn will negatively affect the validity of Graveney Marshes as an area able to successfully sustain this SPA species as it does currently, thus harming the integrity of the SPA. If total hunting area is reduced the predator will place a greater strain on the prey populations acting as a 'top down' control, pushing the prey into a state of decline. Therefore, both resources, such as food and nesting areas, together with predation pressure, negatively affect the size of prey populations.	The Applicant contends that the inter-array grassland areas are not narrow corridors, but provide considerably larger extents of good quality foraging habitat to support prey species than currently exists in the arable baseline. 0.5 ha new reedbed creation is proposed and enhancements to some of the ditch network is expected to provide new nesting opportunities for marsh harrier.

Ref.	Statement	Applicant's Comment
11	Even with careful and intensive management to encourage prey species to occupy the 16m wide strips, it's questionable that will be enough to sustain the marsh harrier over extended periods of time, in this case 40 years, especially during breeding/nesting periods when the harriers are reluctant to forage far from their nests.	
Marsh harrier behaviour		
12	Raptors: a field guide for surveys and monitoring3 clearly maintain that 'nests are normally found in freshwater or brackish reed beds, in other wetlands with tall emergent vegetation and few or no trees, or in tall crops adjacent to a wetland.' This guide also states that 86 per cent of nests surveyed between 1983-90 and 1995 were in reed beds, with 13 per cent in arable crops. This shows two things, (1) that farmland is important to the marsh harrier for hunting and nesting and (2) that undisturbed reed beds are vitally important for reproduction viability. Marsh harriers are extremely sensitive to human interference and disturbance and are likely to abandon their nests, indeed this guide warns of the dangers of desertion and recommends a distance of 300 – 500 m for monitoring purposes to avoid or minimise the risk of desertion. This is yet further evidence that a 16m buffer is not anywhere near enough set aside.	The Applicant agrees that arable crops can provide suitable nesting habitat for marsh harrier, especially in the absence of favourable wetland habitats. However, 0.5 ha new reedbed creation is proposed and enhancements to some of the ditch network is expected to provide new nesting opportunities for marsh harrier. The Applicant is aware of the status and sensitivity of nesting marsh harrier. The reference to a disturbance distance of 300-500 m relates to human presence when surveying for marsh harrier; this distance is not a reference to disturbance distance to built structures and is not relevant to the solar panel separation.
13	www.birdwords.co.uk states that the hunting method the marsh harrier adopts is to fly at low speeds and low height from the ground, called quartering, and then dive down once prey has been identified. This hunting behaviour requires manoeuvrability room and space in order to hunt successfully and effectively. The narrow corridor on offer by CHS will not be sufficiently wide enough to offer this space for manoeuvrability especially with the high fencing and even higher panels on either side also serving to restricting the harrier's peripheral vision. To protect the integrity of the SPA and this SPA species into the future the only viable option is for the solar farm to be refused and for the MEAS to be implemented as planned.	The Applicant contends that the inter-array grassland areas are not narrow corridors, but provide considerably larger extents of good quality foraging habitat to support prey species than currently exists in the arable baseline. Marsh harriers frequently 'quarter' linear features such as ditches and the inter-array grassland will be sufficiently wide to permit such behaviour.
Use of bird scarers during bird count days		
14	The below was copied from CPRE Kent's written representation for deadline 2. 'Page 43. 115. lists 'removal of bird scaring' as mitigation. 119. states that the current landowner does not adopt any bird scaring activities. Therefore, how can it be 'removed' for mitigation if it does not exist in the first place?	Paragraph 115 sets out a list of possible mitigation measures for waterbird refuge areas as defined by the literature review. Paragraph 119 makes it clear that there are currently no deliberate scaring activities in practice and commits to maintaining an undisturbed (no scaring) area. In practice, with the Development, there would be no requirement for deliberate bird scaring around the AR HMA, as there will be no adjacent crops that require protection from grazing by geese.
15	The report also refers to section 9.8. When referring back to table 9.8 (Page 17) lapwing count, it was noted that bird scarers were in	There is no question in regard to the validity and robustness of the baseline data in this respect. There may be confusion in this point between references to section 9.8 and table 9.8

Ref.	Statement	Applicant's Comment
	use when four of the seasonal bird counts took place, namely 2008/09, 2009/10, 2010/11, 2011/12, the same for the counts of golden plover and for brent geese. The use of bird scarers at the time are likely to have had a negative effect on the count. Therefore, how can these years be taken into consideration when the desired effect of bird scarers is to displace birds? This calls into question the validity and accuracy of the peak mean count for these three species of bird and in turn the robustness of the number of bird days and subsequent mitigation. In a nutshell, the bird count for these three bird species could be grossly under stated especially as CHS wish to use the same mitigation area for all three species even though the proposed mitigated area 'falls short of the requirement for lapwing...' For instance; the peak mean count for brent geese including the seasons with bird scarers is 468 birds, the peak mean count without the seasons with bird scarers, namely 2012/13, 2013/14, 2014/15, 2015/16, 2016/17 is 645.'	of the Ornithology Technical Appendix [APP-223]. Notwithstanding, Table A9.8 presents desk study information provided by KWT on the peak number of lapwings recorded by the warden during each month between winter 2008/09 and 2016/17. Similar data are presented for brent goose and golden plover in Tables A9.6 and A9.7 respectively. The Applicant agrees that bird scarers might have reduced the numbers of birds on site for the count at the time and that would be the purpose of the bird scarers. However, the numbers of birds presented in these tables have not been used in the calculations of the baseline peak-mean counts. They also demonstrate that bird scaring ceased in winter 2011/12, whereas the baseline surveys for the development on which the peak-mean counts have been analysed were undertaken between winter 2013/14 and winter 2017/18. The baseline surveys have been carried out during a representative period of the typical arable rotation and activities and therefore provide a robust and precautionary measure of the use of the site by these three species.
16	CPRE Kent has nothing more to add other than it seems that the absolute bare minimum (if even accurate) for bird numbers has been met by CHS. This does not fit with the Government's plans for a net gain and/or even a 10% improvement on biodiversity. Improvement means better than before, currently we are looking at a net loss for biodiversity.	The Applicant contends that the proposals are precautionary and go beyond the bare minimum. For example, the AR HMA area is derived from peak-mean, not average, counts and therefore is very likely to overestimate baseline use by some considerable margin. The area derived is also calculated on the basis of a capacity reported in studies of use, not from a study of maximum capacities.
17	DEFRA has published an Environment Bill summer policy Statement: July 2019 which sets out how it intends to take forward its biodiversity net gain proposals in a new Environment Bill that was announced in this year's spring statement. The intention is that a mandatory 10 per cent gain will be introduced, which it is thought will strike the right balance between ambition in achieving environmental outcomes and deliverability and costs for developers.	The Applicant prepared Biodiversity Metric Calculations which were submitted at Deadline 2 [REP2-045] and predict an overall net gain in biodiversity as a result of the habitat changes proposed as part of the Development. The DEFRA methodology for undertaking these calculations has since been updated, and updated calculations have been submitted at Deadline 4 (Deadline 4 document reference 12.5.8) which show a net gain of 65%.
Bird Deaths on solar farms		
18	Whilst the research around bird fatalities caused by solar farms is sketchy at best, there is some research indicating that solar farms do indeed have a significant part to play in bird deaths. Whether by causing a lake effect, glint and glare or affecting prey species such as aquatic insects, more research is needed. However, a publication written by Sammy Roth (2017)5 attempts to take a closer look at this issue.	The Applicant maintains its position that there is no evidence that a solar farm in this location presents a significant risk of collision for birds. The article referred to is a press opinion article referring to a review study by Walston et al. 2016. In that study the authors state that there is uncertainty regarding population level impacts of utility scale solar instalments, but that the available information suggests it is considerably lower than from other human activities.
19	Entitled: How many birds are killed by solar farms? It looks at various solar farm data mainly on desert terrain. As the CHS farm project is intended for land extremely close and adjacent to a marine environment, birds will be expecting to land on water. If indeed	

Ref.	Statement	Applicant's Comment
	they mistake the vast area of solar panels to be a water body than it is highly likely they will attempt to land and subsequently crash onto the panels. This may happen during the day but equally at night if the moon is reflecting off the panels. To date CHS has not produced any tangible evidence at all that these collisions will not occur and all though current evidence is limited it is indicative that birds crashing into solar panels is a substantial risk factor and has occurred on desert located panels. Logically, this would strongly suggest that any panels beside a large water body such as the sea with marine birds flying in and out and over the marshes could potentially increase the likelihood of collisions further.	
20	CPRE Kent's biologist did attempt to address an unscientific comment made by CHS at the Issue Specific Hearing on Biodiversity, (but was missed by the inspector), which was, that the lack of evidence/research around bird collisions on solar panels somehow equates to CHS finding the risk of collision to be insignificant. CPRE Kent would like to emphasise that lack of evidence/research means we don't know what the risk of collision could be, and this lack of research should not be interpreted as insignificant. However, indications of written evidence so far are, that it is more likely to be significant, not insignificant as CHS claim.	

2.7 REP3-063 CPRE Kent (Aviation Glare)

Table 2.7: The Applicant's Comments on CPRE Kent's Written Representation on Aviation Glare

Ref.	Statement	Applicant's Comment
AVIATION GLARE		
1	Having contacted one airport, we are unaware of any contact with an aviation expert to give information on whether there is likely to be any danger to aircraft flying over this solar development due to dazzle and glare.	Chapter 17 - Miscellaneous Issues of the ES [APP-047] included an assessment of the potential for glint and glare impacts. As set out in paragraph 18 of that chapter, aviation receptors were considered and discounted, as the nearest active airfield is Maypole Airfield, 13.5 km to the east, and at that distance significant glint and glare effects are assessed to be extremely unlikely. The Applicant's glint and glare advisors, Pager Power, are also experts in aviation, as set out on page 8 of their report which was appended to the Application [APP-246].
2	Solar reflections off PV panels could cause a distraction to pilots and could be considered a hazard to airport operators at critical stages of flight.	Guidance and studies relating to glint and glare impacts on aviation receptors are referenced in section 17.2.2 of Chapter 17 - Miscellaneous Issues of the ES [APP-047] and Appendices A and B of Technical Appendix A17.1 [APP-246].
3	Apparently, it is advisable to investigate for potential for glint	See above responses.
4	The airports most likely to be affected are: • Southend • London City • Manston- which may be returning to an airfield • Stansted	At the following distances from the Application site, there is not considered to be a potential glint glare impact on the aviation receptors identified in this response: • Southend Airport - approximately 29 km north-north west • London City Airport - approximately 60 km west • Manston Airport - approximately 26 km east • Stansted Airport - approximately 76 km north west Representatives of Southend Airport contacted the project team on 29 July 2019 via email and the Applicant provided a response via Pager Power on 5 August 2019 which stated: "Having reviewed the site location relative to Southend Airport, I note the following: • Southend Airport is approximately 30 km from the proposed development; • It is south east of the airport on a bearing of ~150 degrees; • The proposed development is not beneath the 2 mile approach to the runway on either bearing; • The proposed development is not beneath the extended runway centre line; • It is highly unlikely that personnel within the ATC Tower would be able to see the proposed development; Considering Pager Power's glint and glare guidance, which I have attached [REP2-025], assessment of an airport's operations at 30km is as follow: • c. 10km-30km: consider consultation with certified and licensed aerodromes, the aerodrome may request a glint and glare assessment; • d. 30km+: consultation and assessment not

Ref.	Statement	Applicant's Comment
		considered a requirement, however assessments have been requested beyond 30km. This guidance was based on stakeholder consultation and is now in its second version [REP2-025]. The FAA guidance does not specifically state a distance to which to assess, it only mentions the assessment of proposed solar developments 'on the airport' as mandatory. It does however mention that the FAA do have the authority to review off-airfield projects. Finally, there is no detailed guidance from the CAA stating assessment is required out to 30km. In most cases when a proposed solar development is in relatively close proximity to an airport, a full detailed assessment is completed. At 30km, based on my experience and the bullets presented above, it is very unlikely that there would be an impact upon the ATC Tower or 2 mile approach paths, let alone a significant one. It would have therefore been our recommendation to not complete a detailed assessment unless specifically requested by an airport." The Applicant understands that the Southend Airport representative has shared this response with colleagues from London City and Manston Airports.
5	There may also be implications for Schiphol. We believe that these airports need to be officially consulted to ensure the safety of aviation in the area.	Amsterdam Airport Schiphol is approximately 280 km from the Application site. Please refer to the above response.

2.8 REP3-064 CPRE Kent (Construction Traffic)

Table 2.8: The Applicant's Comments on CPRE Kent's Written Representation on Construction Traffic

Ref.	Statement	Applicant's Comment
TOWN AND COUNTRY PLANNING ACT 1990 – SECTION 77 APPLICATION MADE BY VEOLIA ES (HERTFORDSHIRE) LIMITED LAND AT 2 RATTY'S LANE, HODDESDON, HERTFORDSHIRE EN11 0RF APPLICATION REF: 7/0067-17		
1	Attached is a decision letter from the Secretary of State for DHCLG (SoS) on the above inquiry. The letter is dated 19th July 2019. The decision of the SoS overturned the recommendation of the inspector and planning permission was refused.	The conclusions arrived at by the Inspector in respect of highways, landscape and visual effects, need and the overall planning balance in relation to this energy from waste facility, applied for at a local level, relate specifically to the scheme in question and are not considered by the Applicant to be of relevance to Cleve Hill Solar Park.
2	The Inquiry dealt with an application for an energy recovery facility for the treatment of waste. The application was referred to the SoS, at his request, instead of it being dealt with by the local planning authority so a public inquiry was held. The SoS agreed with the inspector's conclusions except those on highways and landscape. This application has similarities to Cleve Hill Solar Park and the decision by the SoS is, we submit, an important precedent.	
Highways		
3	In paragraph 28 of his letter, the SoS points out that the "HGV numbers would clearly increase by a material amount as a consequence of the development proposed". In paragraph 29 "that the potential for encounters between the pedestrians/cyclists would be materially greater, on all parts of Ratty's Lane, than is currently the case". In paragraph 30 "Overall the Secretary of State considers that the concerns set out in paragraphs 26 and 29 above have not been satisfactorily addressed. He considers that in terms of both the free flow of traffic and the safety of users, the arrangement proposed is not just 'not ideal' as the Inspector recognises at IR17.198, but unacceptable".	These paragraphs state the following: *"28.The Secretary of State further notes the Inspector's view that other users of the private part of the lane [Ratty's Lane] might be more tolerant in relation to providing 'passing access' than might otherwise be the case, that no evidence was put before the inquiry to demonstrate that there is currently any significant problem in terms of free flow or safety, and that visibility is excellent in both directions. However, he agrees with the Inspector that HGV numbers would clearly increase by a material amount as a consequence of the development proposed (IR17.190).* *29. The Secretary of State further notes that there was uncontested evidence that for part of its length, Ratty's Lane is narrower than the width required to allow a HGV to safely pass a pedestrian or cyclist (IR17.191-17.192). He has taken into account that there have been no recorded instances of collisions involving pedestrians or cyclists, that the actual frequency of interaction on the very narrowest section of the Lane would still be relatively low, and that the extant planning permission allows for a maximum of 200 daily traffic movements. None the less he agrees with the Inspector at IR17.194 that the potential for encounters between HGVs and pedestrians/cyclists would be materially greater, on all parts of Ratty's Lane, than is currently the case.* *30.Overall the Secretary of State considers that the concerns set out in paragraphs 26 and 29 above have not been satisfactorily addressed. He considers that in terms of both the free flow of traffic and the safety of users, the arrangement proposed is not just 'not ideal' as the Inspector recognises at IR17.198, but unacceptable. In this case he does not consider the fact that the narrowest part of the Lane is not a public highway justifies a reduction in appropriate standards of traffic flow or safety, whether on the private*

Ref.	Statement	Applicant's Comment
		part of Ratty's Lane or on Ratty's Lane as a whole." CPRE draw comparisons between the refused application and the proposed Cleve Hill Solar Park (CHSP), particularly with regards to the amount of HGV traffic to be generated by the development as well as encounters between HGVs and cyclists. It is suggested by CPRE that the projects are similar in that HGV numbers would clearly increase as a result of the development. However, no acknowledgement is made to the distinction between construction and operational traffic. Consideration should be given to the fact that the construction traffic associated with CHSP will be temporary. Secondly, it is stated that there is a similarity between the two projects in the potential for encounters between pedestrians/cyclists; however, it is considered that the access road to the two sites are not comparable. The Secretary of State identified in the 2 Ratty's Lane decision that in some circumstances an HGV may be unable to pass a cyclist or pedestrian along Ratty's Lane, even if the driver chose to drive over the kerbs and verges. This is materially different from the CHSP, as it should be noted that HGVs and large agricultural vehicles already use the proposed construction traffic route to CHSP, along Head Hill Road and Seasalter Road. Furthermore, a review of Personal Injury Accident Data along the route identifies no existing road safety issue. Furthermore, an outline Construction Traffic Management Plan (CTMP) has been prepared, detailing measures to be implemented to mitigate traffic impact generated during the construction phase of CHSP. This includes mitigation along Seasalter Road and Head Hill Road. Given the proposed mitigation measures, low vehicle speeds and good visibility, it is not anticipated that there would be any significant increased risk of road accidents along the proposed construction traffic route. Unlike in the 2 Ratty's Lane decision, any concerns raised have been appropriately addressed. It should also be noted that the proposed construction traffic route to the CHSP has been tested as it was used extensively during the London Array substation development. The Applicant has not been made aware of any specific highway safety issues during this period.
Landscape and visual effects		
4	There would be significant adverse visual effect which could not be mitigated by landscaping or other screening. There would be "significant adverse effect on the character and appearance of the surrounding area in terms of both landscape and visual impact attracts considerable weight against the scheme".	The conclusions arrived at by the Inspector in respect of landscape and visual effects, need and the overall planning balance in relation to this energy from waste facility, applied for at a local level, relate specifically to the scheme in question and are not of relevance to Cleve Hill Solar Park, which is a significantly different type of development in entirely different surroundings.
Need		

Ref.	Statement	Applicant's Comment
5	There was an urgent and pressing need for the proposed facility.	
Planning balance and overall conclusion		
6	• The waste demands carries substantial weight in favour of the proposal • The climate change benefits of the proposal also carry substantial weight • There would be significant adverse landscape and visual impacts	
Formal decision		
7	The SoS disagrees with the Inspector's recommendation and refuses planning permission.	

2.9 REP3-065 CPRE Kent (Climate Change and Carbon Sequestration)

Table 2.9: The Applicant's Comments on CPRE Kent's Written Representation on Climate Change and Carbon Sequestration

Ref.	Statement	Applicant's Comment
Climate change and carbon sequestration		
1	This topic has been submitted by CPRE Kent on the basis of loss of sequestration of carbon on land affected by the solar panels.	The Applicant submitted a written representation on carbon dioxide offset and sequestration at Deadline 3 [REP3-025] which concludes that the Development would make a greater contribution to decarbonisation to address the causes of climate change than the MEASS managed realignment proposals on the Cleve Hill site.
2	In a recent submission to the Audit Select Committee on Tuesday 23rd July 2019 (transcript attached), Tony Juniper CBE, Chair of Natural England, stated: "So, salt marshes are a very important habitat from the point of view of various plants, birds and invertebrates and they are also very significant carbon stores. I was surprised to learn a couple of years ago that in a hectare of healthy salt marsh around the British coast you may find more carbon than a hectare of tropical rainforest".	
3	He then goes on to say "Rather than the rainforest with carbon being mostly in vegetation above (apart from peatland rainforest of course), you find that the carbon is trapped in the sediments, organic material in layers being accumulated as the salt marsh grows. So what we have done with a lot of our salt marshes is we've "reclaimed" them and turned them into grazing marshes or into agriculture"	
4	He then goes on to discuss the work that Natural England has done together with the Environment Agency on restoring salt marshes and encouraging managed retreat.	The long-term management of the coast in this location is the subject of the MEASS, which is awaiting final publication by the Environment Agency. The Applicant has engaged with the EA in detailed discussion since September 2017 including responding to the EA's consultation on the MEASS. As a result, the Applicant and the EA have taken each other's positions into account. The MEASS is expected to include solutions under either scenario of the Development going ahead or not, and the Applicant is working to ensure that the draft DCO for the project allows for managed realignment to take place on the site if the EA are able to demonstrate that it can be delivered in Epoch 2 (2039 to 2069). To this end, the draft DCO submitted at Deadline 3 [REP3-003] included an updated Requirement 16 which required the Development to be decommissioned following 40 years of operation if the EA can demonstrate that managed realignment can be delivered. That draft Requirement has since been further revised and agreed between the Applicant, the EA and SBC, and was submitted to the Planning Inspectorate on 22 August 2019 [AS-039]. The carbon sequestration potential of managed realignment on the Development site has been considered in a WR submitted at Deadline 3 [REP3-025].
5	During this inquiry CPRE has provided evidence on the research into the loss of carbon sequestration due to the erection of solar panels. We have also pointed out the importance of managed retreat to flood protection. From the comments made by the Chair of Natural England, it appears that there could be considerable loss of carbon sequestration due to the loss of increasing salt marsh, due to the retention of the sea wall, for approximately 40 years. A time which is critical to climate change targets.	
6	However, there is no evidence either from Natural England, the Environment Agency or the applicant on the effect of loss of	The Applicant submitted a written representation on carbon dioxide offset and sequestration at Deadline 3 [REP3-025].

Ref.	Statement	Applicant's Comment
	sequestration due to this development. In view of the Government's target on the reduction of carbon dioxide, the Graveney Marsh could have an important role to play and should be protected.	
7	CPRE Kent believes that the Environment Agency and Natural England should provide important evidence to the Inquiry to inform the balance of climate change benefit.	

2.10 REP3-066 Faversham Creek Trust

Table 2.10: The Applicant's Comments on Faversham Creek Trust's Written Representation

Ref.	Statement	Applicant's Comment
Application by Cleve Hill Solar Park Limited for an Order Granting Development Consent for the Cleve Hill Solar Park Project		
1	Further to my representation to the Rule 8 stage of this Enquiry, I spoke at ISH3 and ISH4 and was invited by the Inspectors to make a further written submission.	
2	I am particularly concerned that the document submitted to the Enquiry on the possible effect of solar energy installations on wildlife, Solar Panels and Wildlife Review 2019, contains no research of relevance to this size and design of installation in this kind of location, because no such research exists. Research cannot have taken place because there is no installation comparable to this one, anywhere in the world. For example, research on bird collisions with solar panels references a solar array of a different type in a desert in the USA.	Solar PV is a mature technology, as of April 2019[5], the UK had 4,387.4 MW of installed capacity of ground mounted solar PV developments of 5 to 25 MWp installed capacity and 1,539.5 MWp of installed capacity of developments of over 25 MWp. The Applicant is not aware of evidence from these installations, including many near water, or from floating solar installations, which points to an ornithological collision risk issue. The scientific and grey literature available concludes that the bird collision risk from solar panels is very low, and that there is likely to be more of a collision risk presented by infrastructure associated with solar developments, such as overhead power lines. However, there will be no additional overhead power lines as a result of the Development and the existing 11 kV overhead line will be undergrounded. Assessments of the impacts of the Development on birds, bats and invertebrates were submitted with the Application in ES Chapter 8 - Ecology [APP-038] and Chapter 9 - Ornithology [APP-039].
3	The report refers to "grey literature" indicating that birds, bats and insects in general, and water birds in particular, may confuse large solar arrays with water. Anecdotal evidence that I have heard includes the example of a swan which crashed into a wet road at night, assuming it was water, with disastrous results. The report cites examples of bats colliding with solar panels, thinking they are water. I have been told that 50% of the bat species found in the UK are present in this marshland. Sky Larks, Marsh Harriers and others will attempt to drink from the panels. It is probable that such a vast array of reflective solar panels would present an unacceptable risk to the valuable populations of birds, bats and invertebrates in this area.	
4	Regarding the effects on biodiversity in general, the report cites research from solar arrays of a very different design from this one, where 70-95% of the ground remains available. In the proposed design for Cleve Hill a very small proportion of the ground will remain available, because you cannot include the ground below the panels. This ground will receive little or no sunlight or rainfall, and over time it could become biologically dead, without even bacteria in the soil. It will not provide a habitat for wildlife. The strips of land between panels will not compensate for the lost extent of open arable fields.	The maximum proportion of the currently arable land that would be beneath solar panels is approximately 45%. A Microclimate and Vegetation Desk Study was submitted with the Application [APP-204] that sets out likely vegetation responses. This does not conclude that the ground will become biologically dead. The transition from intensive arable use to predominantly grassland habitats would also result in a net gain in biodiversity, as set out in the ES Chapter 8 [APP-038]. A biodiversity metric has also been calculated using DEFRA's methodology, demonstrating net gain [REP2-045].
5	There are many examples of professionals in ecology, biodiversity, wildlife and heritage speaking out against pursuing renewable energy at the cost of the environment we are	The Applicant notes that these comments relate to the development of offshore wind farms. The Development has taken into account environmental

[5] https://www.gov.uk/government/statistics/solar-photovoltaics-deployment

Ref.	Statement	Applicant's Comment
	striving to protect from climate change. BBC Radio 4 has been running a series about puffins, some of which has formed part of the PM Programme. On Monday, 22nd July the broadcast (minutes 24.55 to 30.27) was a report on anticipated effects on the puffin population of the development of a wind farm off the coast of the Isle of May (one of four in the Forth/Tay area – which will make a massive contribution to the National Grid's commitment for green energy). Ally McClusky, the representative for the RSPB – which contested the development in the Scottish Courts – remarked on the tension between the need to reduce carbon emissions and conserving wildlife, and said that wildlife needs to be better taken into account. "No question we need renewable energy to tackle climate change. We do think however that you need to take into account environmental concerns when deciding on the location of renewable energy development. We should not be siting them in areas of internationally important seabird populations."	concerns and recommended appropriate mitigation where necessary as reported in the ES submitted with the Application. The Applicant has prepared Biodiversity Metric Calculations which were submitted at Deadline 2 [REP2-045] and predict an overall net gain in biodiversity as a result of the habitat changes proposed as part of the Development.
6	In a separate programme in the series, David Steel, Reserve Manager on the Isle of May, said that the birds in the area may not like the wind farm and may become displaced, having to move to other areas, and that "seabird research is a long game." The representative for EDF Renewable UK, the industry body working on the wind farm, has been working on the impact on seabirds for over eight years. There have been no such long term, in depth studies of the potential effects on wildlife of the proposed solar installation at Graveney.	The Applicant notes that these comments relate to the development of offshore wind farms which have different impacts to a solar farm. The Applicant included grey literature from the RSPB in the Deadline 3 submission [REP2-011] which relates to interim results from a longer-term study into bird use of solar farms.
7	On the Today Programme (BBC Radio 4, Thursday, 1st August 2019, starting at hour/minute 2:44) Hilary McGrady, Director General of the National Trust, was interviewed in advance of meeting Theresa Villiers, Environment Secretary. Ms McGrady said: "The health of our environment underpins everything. It underpins our wellbeing, it underpins our health, it is why people get out of bed in the morning, so there can't be anything more important." Among other things, Ms McGrady intended to raise with Ms Villiers the proposal to include built heritage in the forthcoming Environment Bill. Both these points are highly relevant to the Cleve Hill site.	The Applicant has assessed the impact of the Development on the environment as reported in the ES submitted with the Application. This includes impacts on built heritage as reported in Chapter 10 - Cultural Heritage and Archaeology [APP-040].
8	The Solar Panels and Wildlife Review 2019 report concludes that "In March 2019, DEFRA confirmed that the delivery of biodiversity net gain would be a mandatory requirement for all new developments in England."	The Applicant prepared Biodiversity Metric Calculations which were submitted at Deadline 2 [REP2-045] and predict an overall net gain in biodiversity as a result of the habitat changes proposed as part of the Development.
9	I cannot see how this mandatory requirement can be met by creating a hundred acre wildlife area to replace 900 acres of farmed	The DEFRA methodology for undertaking these calculations has since been updated, and updated calculations have been submitted at Deadline 4 (Deadline 4 document reference

Ref.	Statement	Applicant's Comment
	marshland, even allowing for 'corridors' of grass, hedge or tree planting. A very wide variety of species – mammals, birds and invertebrates – live in this thousand acre site, including ones of national and international significance. The area is surrounded on two sides by an internationally important estuarine habitat, which is a Marine Protected Area and an SPA with marine components. It includes and is adjacent to land designated SSSI, SPA and Ramsar. As far as I can tell, no thorough survey over several years has been conducted to record and analyse the plant and animal life that is present on the site, so there is no benchmark against which any changes in biodiversity can be measured.	12.5.8). The surveys undertake to establish the baseline ecological environment and an assessment of effects on avian and non-avian ecological receptors are reported in ES Chapter 8 - Ecology [APP-038] and Chapter 9 - Ornithology [APP-039].
10	The report states "The primary suggestion was to locate solar energy facilities in areas supporting little biodiversity.", and "Natural England recommend the avoidance of solar developments in or near to areas of high ecological value or designated sites."	The Development is proposed on arable land, which is a habitat of negligible ecological and biodiversity value as set out in Table 8.6 of Chapter 8 - Ecology of the ES [APP-038]. Paragraph 2.56 of the report cited [REP2-010] states: "Publications by Natural England recommend the avoidance of solar developments in or near to areas of high ecological value or designated sites." It is likely this refers to the Natural England Evidence review of the impact of solar farms on birds, bats and general ecology [REP2-009], which is less specific in its wording. Point (x) of the executive summary of that report states: "Evidence from both the grey literature and the peer-reviewed scientific literature suggests that protected areas should be avoided when considering site selection of solar PV developments, with some sources suggesting that locations close to protected areas should be avoided also. This recommendation is not quantified in any of the reviewed literature."
11	On the basis of all the evidence and lack of research evidence, I contend that this is the wrong site for a solar panel and battery installation of this extent and magnitude. It would cause irreparable damage to the environment that we value so highly and are trying to protect.	A description of the site selection process (section 4.2), and an analysis of alternative sites (section 4.4.5) is provided in Chapter 4 - Site Selection, Development Design and Consideration of Alternatives of the ES [APP-034]. The environmental impacts of the Development are assessed in the ES submitted with the Application.

2.11 REP3-067 Faversham & Oare Heritage Harbour Group

Table 2.11: The Applicant's Comments on Faversham & Oare Heritage Harbour Group's Written Representation

Ref.	Statement	Applicant's Comment
Summary of Oral Submission made by David Pollock at the Issue Specific Hearing 3 on 23 July 2019 on Landscape and Visual Amenity Matters, with particular area of emphasis on the visual impact from the sea and the Swale Estuary [E & OE – subject to full transcript of Hearing being made available]		
1	My name is David Pollock. I am the owner and operator of the traditional Thames Sailing Barge 'REPERTOR', which operates as a charter business based in Faversham Creek and operating all around the North Kent coast and Thames Estuary generally. I am a Committee member of the Association of Bargemen; also a Committee member of the Kentish Sail Association which organises the annual Swale Match (race). I am the Vice Chairman of the Faversham & Oare Heritage Harbour Group (FOHHG).	These comments are noted by the Applicant.
2	FOHHG is a comparatively new organisation, which has been nominated as one of the first two Heritage Harbours in the UK, to be designated by National Historic Ships and the Maritime Heritage Fund, as part of a national network of such maritime heritage centres. As part of this process, FOHHG is already starting to work with other organisations in the vicinity along the North Kent coast, also aiming to benefit from the next tranche of Coastal Communities funding	
3	One of the principal features of the Heritage Harbour concept will include – indeed already does include – the cultural and visual attractiveness of Faversham and of its environs and surrounding villages, for visiting vessels to the Heritage Harbour havens, as well as for tourism generally – one can envisage very few if any such visitors wishing to view an industrialised landscape which the proposed development would present – effectively a solid structure 4m high, just behind the existing seawall, from Seasalter westwards along the Swale to the mouth of Faversham Creek and southeast along Faversham Creek to Nagden.	Public perception of renewable energy Development is discussed in section 13.2.4.4 of Chapter 13: Socio-economics, Tourism, Recreation and Land-Use of the ES [APP-043]. The top height of the solar panels is between 3 m and 3.9 m above ground level. Only Field C has solar panels at 3.9 m in height. Figure 5.3A [AS-026] shows the heights of solar panels in each field. The solar panels are proposed typically approximately 70 m behind the sea wall and would not stretch from Seasalter to the mouth of Faversham Creek, rather they start west of the existing Cleve Hill substation. The cross sections provided at Deadline 3 [REP3-027] demonstrate potential visibility of the Development from relevant local viewpoints. Further updates to these cross sections have been provided in response to ExQ2.6.2 at Deadline 4 (Appendix 9, document reference 12.1.10).
4	These land and seascapes, of the Creek, of the Swale, of the mainland, of the Isle of Sheppey and of the one from the other, have remained largely unchanged for centuries. Visitors today are attracted by the same essentially open landscapes, of rural and agricultural nature and semi-wild marshland, as they would have seen hundreds of years	These comments are noted.

Ref.	Statement	Applicant's Comment
	ago. Of course there have been some visual changes, over the years, particularly the electricity pylons which traverse the landscapes and the existing Cleve Hill substation. But it is not at all like the lower Medway and parts of the West Swale, nearby, which present a largely industrialised and unattractive aspect from the water, as well as from the land.	
5	The applicants do not seem to have made any convincing assessment of the visual impact from the Swale, from Faversham Creek, or from Sheppey across the Swale. The applicants have stated, today (23 July), that the array of solar panels would result in only 'a thin sliver' of structure appearing above the seawall. My assessment is that the impact of the proposed solar park would be to industrialise a major area of what is at present unspoilt land, already well-used by wildlife and its observers. This would be not just a visual impact but a functional one too, with significant effects on a much wider area than its footprint alone.	Landscape and visual impacts are assessed in Chapter 7 - LVIA of the ES [APP-037]. Section 7.6.2.2 assesses visual amenity effects during operation on recreation and public amenity receptors. The assessment is supported by figures [APP-054] and visualisations [APP-063 to APP-196]. The cross sections provided at Deadline 3 [REP3-027] demonstrate potential visibility of the Development from relevant local viewpoints. Further updates to these cross sections have been provided in response to ExQ2.6.2 at Deadline 4 (Appendix 9, document reference 12.1.10).
6	The illustrations attached to my earlier submission represent very much a first attempt, with limited resources and references, to make such an assessment, which should properly have been made by the applicants. Following on from this, there should be assessment, by the applicants, of the consequential impacts on cultural and economic (mainly touristic) effects.	Tourism and socio-economic impacts are assessed in Chapter 13: Socio-economics, Tourism, Recreation and Land-Use of the ES [APP-043]. The maritime history of the area is referred to under paragraph 90. A negligible effect on tourism in Swale is predicted during construction (section 13.5.1.3) and operation (section 13.5.2.1) of the Development.
7	The starting point for my assessment has been panoramic photographic views of the coastline, from Whitstable, on the mainland, to Shell Ness on Sheppey, taken from my sailing barge, 'Repertor', on several days and from different locations in the Swale and at various times of tide, ie at varying heights above tidal datum at Newlyn. [All of these panoramas and a viewpoints location chart are now attached].	The visualisations produced do not accurately depict visibility of the Development from the photograph locations. As referred to in this response, the Applicant has provided cross-sections at Deadline 3 [REP3-027] to demonstrate this in greater detail. Further updates to these cross sections have been provided in response to ExQ2.6.2 at Deadline 4 (Appendix 9, document reference 12.1.10).
8	Onto just one of these panoramas, so far, [and as also attached] I have projected the assumed height of the solar panel array, taking for comparison the visible height of the existing Cleve Hill substation and existing agricultural buildings. Assuming these to be in the order of 4 to 5m in height, the projection shows that there would be a solid wall of solar panels standing well above the seawall. This takes no account of any other components of the development, which may be higher.	
9	Far from being 'a thin sliver', this would effectively remove a major part of the current open views across the site from the North East, the North, the North West and the	

Ref.	Statement	Applicant's Comment
	West, including of Graveney Church and other significant landmarks.	
10	Admittedly, this methodology may appear somewhat crude, which is why I welcome the applicants' statement, today (23 July), that they will make available scaled cross sections of the site and the proposed development, which should include levels above Ordnance Datum. With this data available, it will then be possible to determine the accuracy of my assessment. In our view, properly the applicants should carry out and submit this exercise.	
11	In the wider context, the FOHHG supports submissions made, amongst others, by Swale BC, Faversham TC, The Faversham Society, The Faversham Creek Trust and Mr Chris Lowe.	These comments are noted.

2.12 REP3-069 The Faversham Society

Table 2.12: The Applicant's Comments on The Faversham Society's Written Representation

Ref.	Statement	Applicant's Comment
For Deadline 3, August 1st		
1	At the end of the first set of hearings, the Faversham Society still has some major concerns since many questions remain unanswered, and new questions have been raised. While the applicant may answer some of these in written submissions, the Society considers that these answers should be subject to challenge. It was clear from the first set of hearings that there are inadequacies and omissions in the documentation submitted by the applicant and that the applicant's submissions need to be challenged.	The NSIP examination process includes a range of opportunities for submissions by the Applicant and interested parties to be challenged. The ExA published second written questions on 9 August 2019, and a second round of hearings has been arranged for the week commencing 9 September 2019. The Applicant will submit responses to Deadline 3 submissions and the second written questions by Deadline 4 on 30 August 2019.
2	We also have serious concerns about the capacity of Swale Borough Council (SBC) to undertake the work necessary to adequately address the Discharge of Requirements if this becomes necessary. The fact that the applicant has a right of appeal against SBC decisions and their refusal to give up this right is worrying. The developer's extensive resources pitted against SBC's limited resources constrained by public spending limits do not augur well for SBC ability to adequately provide oversight. In order to level the playing field, we would urge that the DCO is as explicit as possible about those requirements that need to be satisfied.	The legislative and policy context for the Development is set out in the Applicant's written representation on policy and procedure [REP2-026].
3	If the development is built it is not clear to us how the various conditions might be enforced. This also means in particular that our cogent arguments on the limitations of the Rochdale envelope should be accepted, and that much more detail on the technology is provided now. As already notified, we request additional Issue Specific Hearings as follows:	
A. The Battery Energy Storage System (BESS)		
4	As you will recall, the applicant suggested that after 40 years the PV panels would be removed, but that the battery compound and batteries might be retained. The applicants did not respond when we tried to pursue this. This statement is in stark contrast to other statements by the developer that the BESS is not an essential part of the development and may be replaced by additional PV panels. Given the huge cost and construction time of the bund around the BESS enclosure, the developers admitted that such a decision would have to be made at the start of the project. Not implementing the bund would require a major change to the proposal as it stands, not least to time scales and traffic plans. But as we have also pointed out,	Decommissioning of the Development is partly dependant on the ability of the Environment Agency to undertake managed realignment on the site, and is controlled by Requirement 16 of the dDCO (Deadline 4 submission document reference 3.1, Revision D). The Outline Decommissioning and Restoration Plan [APP-206] states at paragraph 2: *"The future of the electrical compound including the Development substation and the energy storage facility would be discussed with network operators and agreed with the landowner and the local planning authority prior to commencement of decommissioning."* The Applicant has been clear in written and verbal submissions that the Development could go ahead with or

Ref.	Statement	Applicant's Comment
	exchanging a BESS with more solar PV is a major change of technology and fundamentally changes the nature of the proposal. Why has such an important and fundamental decision not been made already?	without the energy storage facility, and the DCO has been drafted to afford this flexibility. This decision has not yet been made, as there is currently no long-term subsidy support which would support the development of an energy storage facility within the timescales of the consent. Whilst the energy storage facility is an integral part of the design of the scheme, the Applicant must allow for a scenario whereby its deployment is not possible and this is what is allowed for in the DCO. The alternative solution for the area, of an extension to the solar PV array would be considered to be a minor adjustment in the context of the overall solar PV component of the Development, rather than fundamentally changing the nature of the proposal, and as suggested in this response, would reduce traffic levels and construction duration.
	The considerations above lead us to a requirement that the developers are explicit on their intentions for the BESS both during and after the 40 year lifetime of CHSP. • Is its main purpose for smoothing intermittent supply from renewable energy sources or is it primarily a means of storing and trading energy? • Does it have a role in relation to the existing wind power capacity or is the possible use after 40 years simply for energy trading? These and other questions, on for example the energy specification of the BESS, are fundamental and the answers may possibly indicate an intention to create what is effectively a standalone BESS which is very different from a proposal for a solar PV plant.	The Applicant refers to Table 5.5 of the Statement of Need document [APP-253]. This table describes the many applications which may be delivered by the proposed energy storage asset. Storing and trading energy is just one of those applications, ultimately the storage facility will be used for those purposes which are (a) needed, and (b) provide commercial incentives. The BESS and the solar PV components of the Development are both considered in the Application documentation.
	A further ISH on batteries and associated technology is needed to explore the many outstanding questions relating to the BESS, which besides those raised above would include: • Justification by the developers of their blanket use of the Rochdale envelope and reaching a defined position on the appropriate level of detail in the light of the well-documented hazards associated with large scale BESS • Specification and type of batteries and criteria for their choice based on, for example, safety record. E.g containerised vs stand alone • Worst case scenario on proposed total energy storage • Previous UK and European experience of this scale of BESS • Implications of current best practice advice on large scale BESS including that previously	The justification for the use of the Rochdale Envelope is clearly described in section 2.1.1 of Chapter 2 - EIA [APP-032] and section 5.3 of Chapter 5 - Development Description [APP-035] of the ES. The Applicant has prepared an Outline Battery Fire Safety Management Plan (Deadline 4 submission, document reference 12.5.1) which addresses safety related issues. The Applicant has discounted the standalone battery solution in favour of a containerised solution. The Applicant's view is that it is not necessary to constrain the capacity of the energy storage facility. Its physical characteristics are constrained by the Outline Design Principles (Deadline 4 submission, document reference 7.1, Revision C), which restrict the height and area to be occupied by the energy storage facility, and operational safety is controlled through the OBFSMP referred to above. The Applicant has engaged directly with HSE and KFRS. HSE has provided a review of the OBFSMP, with their comments

Ref.	Statement	Applicant's Comment
	presented at Open Floor 2 from the insurance industry • Spacing of batteries to avert thermal runaway and provide emergency services access, and the impact of spacing on total energy storage • Access by emergency services by external roads and through the bund to all points in the BESS in order to ensure individual fires can be dealt with • Liaison with Kent Fire and Rescue Service (KFRS) in the BESS design stage and sign off by them and the HSE • Fire elimination and suppression measures to be built in, in the light of their previous well documented failure in Hawaii, Arizona and Belgium • An independent assessment of the local knowledge and capacity of KFRS to deal with a runaway fire, including proposed suppression methods, extinguishing, cooling, and reignition (which has been shown to occur well after an incident). This to include best practice for lithium-ion batteries as well as the possibility of free lithium being produced in the event of an explosion, making the use of water extremely dangerous. Ability to cope in a toxic emission situation • Impact of hydrogen fluoride and other toxic gas emissions from a fire on neighbouring receptors including the whole of Faversham. See the submission by Bruno Erasin on HF emissions at Open Floor 2	incorporated in the latest version. The Applicant has held a telephone meeting with KFRS and the notes from that meeting are included in Appendix 8 to the Applicant's Responses to ExQ2 (document reference 12.1.9). KFRS will review the OBFSMP, however their internal experts have been unable to do so prior to Deadline 4. It is anticipated that their review will inform an updated version of the OBFSMP by Deadline 5. The Applicant has produced a response to Dr Erasin's submission [REP3-059] in the form of an Air Quality Impact Assessment (AQIA) (Deadline 4 submission, document reference 12.5.7). The Applicant's AQIA demonstrates that Dr Erasin's submission is flawed, as it is based on incorrect evidence and assumptions.
B. Need and Alternative Sites		
	We have submitted further evidence on need for deadline 3 drawing on the recently published FES 2019 projections form the National Grid. This shows that there is no evidence of need for CHSP. The National Grid also points out that right through to its 2050 projections, future energy need will be met from distributed generation rather than centralised energy plants such as CHSP.	These points are addressed in The Applicant's response to Deadline 3 submissions made in relation to Need by GREAT and the Faversham Society [AS-037]. The further evidence referred to is also addressed in section 2.13 of this document.
	This authoritative and seminal view of need derived from the National Grid's FES 2018 and FES 2019 is an unexplained omission from the application which has not been raised in the Examiner's Questions nor has it been discussed in Hearings. Our view is that it is essential that the applicants provide a response and that they can be questioned on it.	
	Having carefully read the applicant's submission and listened to their evidence, we are now firmly of the view that the location is opportunistic. The site has been chosen because of the availability of the link to the national grid due to the spare capacity from the London Array, and we would like to point	

Ref.	Statement	Applicant's Comment
	out that further wind power generation would almost certainly have had less negative environmental impacts than the Cleve Hill proposal. We would like to see further evidence on need and a proper review of alternative sites.	
In addition to our proposals for two further Issue Specific Hearings above, we have outstanding questions relating to the following topics. We would like these questions to be put to the applicants in the next round of Examiners' questions.		
1. Agricultural Land		
	The wide difference between the applicant's assertions about the quality of the site as agricultural land and that presented by Dr Bruno Erasin is cause for concern. His evidence provides a substantial critique of the timing, methodology, data and the applicant's evidence; sufficient to call into question the reliability of the applicant's evidence.	A response to Dr Erasin's submissions on agricultural land classification [REP2-060 and REP3-058] is provided in section 3.2 of this document.
2. Managed Retreat		
	Marshland is now recognised as important for carbon sequestration and we have not found any acknowledgement of this in the application. We would like the applicant to be required to present data on the value of the ecosystem of the land as marsh compared to its use for power generation.	The Applicant submitted a WR on carbon dioxide offset sequestration at Deadline 3 [REP3-025] which addresses this point. The WR concludes that the Development would result in greater decarbonisation benefits than managed realignment at this location.
	There was reference by the Environment Secretary in a speech on UK Climate Change Projections to coastal realignment and a new strategy by the Environment Agency i he said 'We are also pioneering 'natural flood defences', which support biodiversity and sequester carbon while lowering the risk of flooding."	
	In the scientific literature, there is increasing evidence of the significance of the marsh for carbon sequestration: "If coastal habitats are maintained at their current extent, their sequestration capacity over the period 2000–2060 is valued to be in the region of £1 billion UK sterling (3.5% discount rate). However, if current trends of habitat loss continue, the capacity of the coastal habitats both to sequester and store CO2 will be significantly reduced, with a reduction in value of around £0.25 billion UK sterling (2000–2060; 3.5% discount rate). If loss-trends due to sea-level rise or land reclamation worsen, this loss in value will be greater."	
	The justification for the development of CHSP is its contribution to addressing greenhouse gas emissions, should the applicant not be asked to provide evidence that the net greenhouse gas benefit is positive taking into account the greenhouse gas emissions from establishing and operating the CHSP including the loss of carbon sequestration if the area reverted to salt marsh through managed retreat?	
3. Biodiversity		

Ref.	Statement	Applicant's Comment
	We believe that there is good reason to question the quality of the applicant's work on biodiversity. We heard evidence at the hearings of the importance of the site for European eels, Dormice and the Great crested newt. We would also like to have the opportunity to question the outcome of the Habitat Management Steering Group, about which, to date, we know very little. There should be an opportunity to challenge the evidence presented by the applicant on no net loss.	The importance of the site for European eel is known and measures are being incorporated into the design to ensure they are safeguarded and protected during and post development. Inclusion of mammal/eel friendly box culverts is included within Table 2 of the Outline LBMP [REP3-005]. The final detailed design of the drainage design is not yet known, however Table 2 of the Outline LBMP secures their eel friendly nature. The importance of the site for great crested newt is known and updated survey was undertaken this year to inform the necessary licence application to Natural England for this European protected species. The approach undertaken has been completed in full agreement with Natural England who have reviewed the draft European Protected Species Mitigation licence which has been submitted to them. Natural England have reviewed and subsequently provided a Letter of No Impediment thereby, confirming their acceptance of the licence which has been provided. The Applicant is not in agreement that the nest identified is categorically that created by hazel dormice. This is due to the lack of suitable habitat present at both Cleve and the immediate surrounds, as per the original assessment and as detailed in the response to CPRE in section 2.6. The photograph of the identified nest is similar in appearance with that associated with winter wren and other small mammals including, harvest mice which are associated with cornfields, hedgerows, reed-beds, brambles, long grass and sometimes open field habitat. Most of which are located at Cleve Hill. As this nest was reported in January 2019 (PTES reference 31366) the nest would likely have been a winter nest and, harvest mice are known to stay close to the ground during the winter period for warmth and insulation. The Applicant has therefore requested clarification on whether or not the nest was mis-identified and whether any further dormouse field sign evidence was identified. The findings of no net loss have been confirmed by two separate iterations of DEFRAs Biometric calculation. The July 2019 update is provided in Deadline 4 submission document reference 12.5.8. A thorough and robust biodiversity/ecological assessment has been undertaken to inform the development and all necessary UK and European protected species mitigation and licence requirements.
	We heard Natural England inform us that monitoring of SSSIs is not taking place, what monitoring might we expect of the conditions attached to the DCO by either the Environment Agency or Natural England?	The Applicant has incorporated Requirement 19 into the DCO at Deadline 4 (document reference 3.1, Revision D), which requires the Applicant (the undertaker) to consult with other organisations, such as the EA and Natural England prior to making an application to discharge the requirement.
4. Cultural Heritage and the Views		
	We share Historic England's concern about the level of harm to the setting of the listed buildings at All Saints Church (Grade I) and Sparrow Court and Graveney Court (Grade II).	The Applicant and Historic England agree that the level of harm to the heritage assets identified is less than substantial, as set out in the SoCG between the Applicant and Historic England submitted at Deadline 2 [REP2-031].

Ref.	Statement	Applicant's Comment
	We are concerned about the applicant's lack of demonstrated concern and provision for the treatment of the WWII aircraft and any other archaeology which may be found on the site and have poles driven through it.	As set out in the desk-based assessment submitted with the Application [APP-230], e.g., in the summary at the start of the document, any surviving remains of the aircraft are protected military remains however it is recorded that the aircraft was removed for study by the British army. An outline archaeological written scheme of investigation was submitted with the Application [APP-233] and was updated at Deadline 3 [REP3-007], which provides mitigation for potential impacts on unknown archaeology on the site.
	The cross-section drawings will assist with assessing the proposed planting and its impact on the intervisibility between the listed buildings and the Graveney Conservation Area.	No planting is proposed that would directly affect the intervisibility between the listed buildings (All Saints Church, Sparrow Court and Graveney Court) and the Graveney Church Conservation Area, all of which are located to the south of the Development site. Additional visualisations were provided at Deadline 3 [REP3-028] to provide additional season context to views of these heritage assets from the area to the southeast of the Development site.
	We think that special regards should be paid to the relevance of the Barnwell case.	The Applicant has set out the legislative context for heritage policy in an additional submission [AS-027]. Section 4.1 deals specifically with the Barnwell Manor case and paragraph 24 states: *"The Barnwell Manor cases concerns the interpretation of s66(1) and is therefore not relevant to this DCO application."*
5. Transport		
	During construction of the London Array, there were specific measures to avoid movement by Graveney School at busy times. We have been surprised and dismayed by the lack of detail on safety, dirt, noise, visual intrusion and disruption to the education of young children.	The Applicant submitted an Outline Construction Traffic Management Plan (CTMP) with the Application [APP-245] and updated this document at Deadline 3 [REP3-009]. The Outline CTMP provides measures to address all of the points raised, with Graveney Primary School specifically identified as a sensitive receptor.
	We have also not heard from KCC on the impact on traffic levels and the roads.	KCC Highways Department has provided comments on access and traffic in its Local Impact Report [REP1-004] and Written Representation [REP2-052]. A SOCG is expected to be agreed including KCC Highways responses ahead of Deadline 5.
6. Finances		
	We realise that we have no access to the financial model behind the proposal, but we understand that the applicant has told residents that there is insufficient profitability to make any contribution to local causes. This contrasts markedly with the London Array development and raises questions in our mind about the viability of CHSP and leads us to suggest that there should be a bond to cover removal, disposal and habitat restoration.	This point was addressed in the Applicant's response to ExQ1.4.49 [REP2-006] and is repeated below. Whilst the Applicant does not consider that it is necessary to provide financial security for future decommissioning costs, it is good commercial practice to set aside the necessary funds throughout the operational life of the Development and this is the Applicant's intended approach. dDCO Requirement 16 provides a clear and enforceable mechanism to secure the carrying out of the necessary decommissioning works within a fixed period from the Development ceasing to operate. The Applicant considers that the enforcement mechanisms in the Planning Act 2008 are stringent. Criminal liability is a

Ref.	Statement	Applicant's Comment
		possible consequence of a breach of Requirement 16. The Proceeds of Crime Act 2002 also allows local authorities to seek to recover the profits accruing to businesses and individuals who breach planning control, and part of the money recovered is retained by the relevant local planning authority. This has been used successfully by planning authorities recently to recover substantial sums via confiscation orders.
	Pole driving to support the panels will be both noisy and difficult to remove. It has been suggested to us that it would be more appropriate to use helical poles which would cause less disturbance to people and wildlife and would be easily removed and reused.	Driven piles are the most efficient and economical solar PV mounting structure solution. Helical piles take longer to insert and are more difficult to remove than driven piles. The Applicant undertook a study of ground conditions to determine the method of construction (Deadline 4 submission document reference 12.5.9) which determined the piling method and depths required. The driven piling method has then been subject to assessment in the ES as set out in section 5.4.1.3 of Chapter 5 - Development Description [APP-035].

2.13 REP3-070 The Faversham Society

Table 2.13: The Applicant's Comments on The Faversham Society's Written summary of oral submissions presented at Issue Specific Hearing 1 and 4 - request for additional hearings

Ref.	Statement	Applicant's Comment
DEMAND FOR SOLAR POWER		
Introduction		
1	We recognise the urgent need to decarbonise electricity generation in the UK as outlined in the applicant's Statement of Need and Addendum submission. This paper considers the deployment projections for solar PV currently in planning against deployment projections for requirements of solar PV by the National Grid, the UK System Operator.	FES 2019 (page 8) states that the FES "includes a set of pathways that capture what the future of energy may be". It goes on, on page 9, to state that: "FES includes four scenarios. These are not in themselves forecasts of expected pathways" The four scenarios in the FES 2019 play out different views of how policy may shape electricity demand; and how policy may shape investment in new generation, and the continuation of existing generation, to meet that demand. It then assesses what impact that generation mix would have on GB carbon emissions. The FES scenarios therefore should not be taken indications of demand for specific generation assets, more a representation of how the supply mix may evolve under given conditions, subject to individual projects coming forwards, subject to planning, from commercial asset developers. The scenarios should not be interpreted as "demand" for new assets. And nor should forward capacities in planning be interpreted as sanctioned and therefore 100% deliverable projects. The scenarios are heavily assumption based, but clearly show that not all possible futures permit the UK to meet its climate goals. A common theme in all scenarios is that solar plays an important role in the low-carbon GB generation mix; that decarbonisation is the goal, and decentralisation may increase due to technological advances, policy decisions and consumer behaviour; and that the future operation of bulk low-carbon generation assets is not yet assured. Therefore, the deployment of a project which will generate sufficient power for 91,000 homes each year, from as early as 2023, subject to planning consent, should be seen as a no-regrets development in decarbonisation.
2	Comparing a case including the generating capacity of Cleve Hill against one excluding Cleve Hill, it concludes that the Solar PV deployments will be exceeded without the Cleve Hill site, thus concluding that there is not a need Cleve Hill Solar Park.	
National Grid Future Energy Scenarios		
3	National Grid in its role as the UK's System Operator managing the electricity grid, prepares annual forecasts known as the Future Energy Scenarios (FES) (http://fes.nationalgrid.com/fes-document/). This sets out the three different scenarios it considers most likely given energy demand, expectations for electricity supply, current policies, decarbonisation requirements and requirements of energy security. The most recent version is FES 2019 published in July, just before the ISH on Need. FES 2018 enables detailed forecast demand figures to be extracted up to 2030. Careful study of FES 2019 reveals that it differs only in that it takes account of a proposed zero carbon target by	The Applicant refers to the initial comments above, the Statement of Need submitted with the Application [APP-253], it's March 2019 addendum [AS-008] and subsequent submissions in response to responses by GREAT on need [AS-037] and [REP3-30 to 046].

Ref.	Statement	Applicant's Comment
	2050. However, for the period up to 2030 FES 2019 is identical to FES 2018. We have therefore used the detailed figures from FES 2018 in this submission. We discuss the impact of the new zero carbon policy framework in 4. below. The three scenarios identified and fully explained in FES 2018 and 2019 are: ► Community Renewables. ► Two Degrees ► Steady Progression ► Consumer Evolution	
4	Schedule 5.4 of FES 2018 sets out the forecast demand for solar generating capacity under each of the above scenarios, identified as shown in the table below. **Table 1**	
5	Based on the above cumulative projections, the new generating capacity for each year can be simply calculated as shown in table 2 below. **Table 2**	
6	From Table 2 the highest predicted total demand for new solar PV for the years 2019-2022 (Community Renewables) is thus 4.1GW	
The UK solar market		
7	Many markets globally have ended direct subsidies in favour of unsubsidised markets or auction processes where governments procure electricity from the least expensive plants available. This has all driven the requirement for PV to become competitive with other forms of generation. The supply chain has responded in improving production efficiencies of PV systems and their constituent parts, resulting in reductions in capex of PV plants globally.	The Applicant refers to the initial comments above, the Statement of Need submitted with the Application [APP-253], it's March 2019 addendum [AS-008] and subsequent submissions in response to responses by GREAT on need [AS-037] and [REP3-30 to 046].
8	Given the costs reductions currently in train the initial costs of installing solar PV in the UK are currently estimated to be c. £400-500k/MW. Given these prices, UK solar is now on the verge of cost competitiveness, and as these cost reductions continue, it is widely considered that it will be competitive with other generation within months.	
9	The UK solar industry is responding and localised solar PV development is increasing with many development and construction cycles which are much shorter than those for other forms of renewable generation. This is especially so for those under the less than 50MW devolved planning process undertaken for all solar PV generation to date. CHSP is the first and only PV plant to be going through the NSIP process.	
10	Submissions in local planning portals provide an accurate estimate of the solar PV projects that are currently in development. These can be considered in conjunction with those in pre-application and consultation phases to give a reliable indication of solar PV coming	

Ref.	Statement	Applicant's Comment
	on stream over the period 2019- 2022.	
11	Table 3. below shows the Solar PV currently in planning and development for the years 2019-22. **Table 3**	
FES 2019 and Zero Carbon by 2050		
12	As noted above, FES 2019 takes account of the new policy framework and target for zero carbon by 2050. FES 2019, Fig 5.4 indicates a 2050 solar capacity (demand) of c52GW of which only 42% is centralised. Moreover, FES 2019, Fig.3.2 on decentralisation is also of interest since it indicates that for the Community Renewables scenario, total centralised capacity stays fairly constant right up to 2050. This indicates that even in the zero-carbon scenario there is no role to be played for massive centralised installations such as CHSP. FES 2019 projections also detail and take account of significant energy demand reduction measures up to 2050.	The Applicant refers to the initial comments above, the Statement of Need submitted with the Application [APP-253], it's March 2019 addendum [AS-008] and subsequent submissions in response to responses by GREAT on need [AS-037] and [REP3-30 to 046].
Conclusion		
13	The chart below shows the total estimated new generating capacity outlined by National Grid in each of the National Grid deployment scenarios described above over the four-year period 2019 to 2022.	The Applicant refers to the initial comments above, the Statement of Need submitted with the Application [APP-253], it's March 2019 addendum [AS-008] and subsequent submissions in response to responses by GREAT on need [AS-037] and [REP3-30 to 046].
14	Figure 1: Forecast Solar Deployment 2019 to 2022 Source: National Grid Future Energy Scenarios, 2018, UK planning databases **Figure 1**	
15	As shown in Table 2 above the highest deployment projection for solar currently envisaged by National Grid (Community Renewables) is 4.1 GW from 2019 to 2022. Even without new additional solar PV, which will inevitably come on line in the coming years, the estimated capacity currently in planning (Table 3), excluding Cleve Hill is 4.3 GW which exceeds this projection. In addition the trend is away from centralised generating capacity such as Cleve Hill.	
16	This indicates that by the planned completion date for CHSP there will already be sufficient solar PV capacity in the UK to meet our projected energy and decarbonisation needs.	
17	This establishes conclusively that CHSP is not needed and will be redundant before it is completed.	

2.14 REP3-076 Helen Whately MP

Table 2.14: The Applicant's Comments on Helen Whately's Written Summary of Oral Statement

Ref.	Statement	Applicant's Comment
Cleve Hill – Helen Whately statement to Open Floor Hearing		
1	Helen had hoped to attend in person today as she feels very passionately about this application. Unfortunately, she is unable to be here as she is introducing a new piece of legislation in the House of Commons on flexible working. As the timetable for Parliamentary business is set out on the actual day, she has been unable to guarantee when her Bill will be called, hence this has not enabled her enough time to get to the constituency and back to London. Helen has therefore asked me to read out the following statement on her behalf.	The Applicant has engaged with Helen Whately MP and her office by way of face to face meetings and regular project updates throughout the pre-application consultation period, as detailed in Paragraph 7.19 of the Consultation Report [APP-022].
2	"As the local MP for Faversham and Mid Kent, the proposed development of a solar plant and battery storage facility falls within my constituency. Since the idea of the project first arose, I have received a great number of letters from constituents – not only those living in the Graveney area, but also across Faversham and the wider area. Whilst the common theme has been great concern about the proposal, what is clear is that this is not simply as a result of what some might view as NIMBYism. Rather, the opposition expressed to me is the result of a complex interaction of different factors.	
3	Today, I want to reiterate some of those factors, that I hope will be taken fully into account as this proposal is examined.	
4	At 491.2ha, and despite being pared back from its original size, the proposal is vast, larger even than the footprint of Faversham itself. This part of my constituency comprises flat, agricultural marshland, representing a special, tranquil and beautiful landscape. The natural topography here affords far-reaching views across to Faversham and vice-versa, which are important to local people as they evoke memories, traditions and a sense of place. The unusual scale, density and directional setting of the solar panels anticipated for the site will inevitably impact negatively on this landscape and I can only emphasise the anxiety that this is causing among residents who will have no choice but to lose the views and openness that are so important to them. Whilst natural screening is proposed, clearly this won't bring back lost views and that sense of wide landscape.	The impacts of the Development on landscape are assessed in Chapter 7 - LVIA of the ES [APP-037]. Impacts on the residential visual amenity of neighbouring properties are assessed in the Residential Visual Amenity Assessment [APP-210]. In response to comments regarding views from surrounding properties, the Applicant consulted with several near neighbours and residents throughout the community consultation, as detailed in Chapter 7 of the Consultation Report [APP-022]. All feedback from the meetings and the feedback received from the community to the PEIR was considered. At Cleve Hill, the Applicant removed 13.6 ha of solar PV modules from the proposed Development in the south east of the public right of way that crosses the south-eastern corner of the site to reduce visibility of the Development from the village of Graveney including the Cleve Hill Road area and Sandbanks Road. The Applicant also removed from the indicative plans for the Development modules from above the 12 m AOD contour on Graveney Hill to reduce the potential for modules to be visible above the crest of the hill, both from the areas described above, but also for the properties accessed from Cleve Hill Road, Crown Cottages and Graveney Hill Farm.

Ref.	Statement	Applicant's Comment
		The Applicant has proposed an extensive landscaping plan as presented in the Outline LBMP [REP3-005] which will include provision for 3.64 km of native hedgerow and tree planting. The Applicant intends to set-back panels from Warm House by 66 m, and has proposed a planted woodland to screen views from Warm House, as discussed with the owners. At Nagden the Applicant now plans to set back panels by 68 m to the nearest property.
5	Equally concerning is the unknown impact of the panel arrangement on the huge variety of birds, mammals and other species of flora and fauna. With no precedent set on the potential impacts of this arrangement, which are by their very nature likely to let only a little sunlight to the earth below, I am unclear as to what wildlife this will effectively support. There is a growing acceptance of the need to recognise and enhance the multiple benefits of green spaces – including their importance in combating pressure on wildlife, habitats, biodiversity and geodiversity. This applies particularly where individual spaces have a greater collective value as part of a wider chain of green infrastructure. Whilst this tract of land is not protected by statutory designation, it is surrounding by land that is, and in turn provides a critical space as a wildlife refuge and stepping stone that can prevent species becoming isolated.	The impacts of the Development on ecological and avian receptors are assessed in Chapter 8 - Ecology [APP-038] and Chapter 9 - Ornithology [APP-039] of the ES. Updated biodiversity metric calculations have been submitted at Deadline 4 (document reference 12.5.8) and show that the Development would result in biodiversity net gain.
6	Recent studies have illustrated the importance of marshland landscapes such as that at Graveney as being critical to mitigating climate change as they lock away carbon. With climate change mitigation being a national priority, I am unclear to what extent the applicant has fully considered the impact of the proposal on this and I would urge the Inspector to take this into account.	The Development is proposed on arable land. The Applicant provided a written representation comparing the carbon dioxide offset and sequestration potential of the Development and of managed realignment [REP3-025]. This work concluded that the Development would be a more effective use of the land for decarbonisation.
7	There is no question that I and my constituents support the development of alternative energy sources, but some balance must be struck between the big picture benefits and the immediate, local impact. I don't feel a balance is achieved here. I also don't believe the applicant has fully considered the alternatives to Cleve Hill as a site for a solar plant, including for instance whether there are other sites – nationally – that would connect to the national grid.	The ES which reports the findings of the EIA identifies the impacts of the development, beneficial and adverse and seeks to reduce or remove adverse impacts through mitigation. Enhancement measures are also proposed. The Applicant undertook extensive consultation in the local community and with key stakeholders, and the site design evolved to take account of the responses received. This process is reported in the Consultation Report submitted with the Application [APP-022] and section 4.3 of Chapter 4 - Site Selection, Development Design and Consideration of Alternatives of the ES [APP-034]. Paragraph 114 of that chapter states: "As set out in the Statement of Need which accompanies the Application *[APP-253]* there is a clear and urgent need for greater renewable energy capacity and energy storage capability. Therefore if there is potential for renewable energy generation and energy storage to be accommodated on the alternative sites identified, this should be in addition to the Cleve Hill site, not instead of."

Ref.	Statement	Applicant's Comment
8	The local impact of this proposal is simply unacceptable. At a time when the emphasis on localism has never been greater, it's vital that we enable planning to take place in a participatory way that gives local people a true voice in applications and I hope that the voices of my constituents will be heard and listened to during the Examination.	The Applicant disagrees that the local impact of the Development is unacceptable. The likely impacts of the Development are set out and assessed in the ES submitted with the Application. The NSIP process is open, transparent and requires applicants to engage with local residents and stakeholders from the outset following agreement with local planning authorities on how this will be done in a Statement of Community Consultation (see section 6 of the Consultation Report [APP-022]. The Applicant has gone above and beyond the statutory consultation requirements and has sought to incorporate suggested amendments to the design of the Development as the consultation has progressed. The ExA has held two open floor hearings in July 2019, and has proposed a further open floor hearing in September 2019 to give a further opportunity for local residents concerns to be voiced.

2.15 REP3-079 Kent Wildlife Trust

Table 2.15: The Applicant's Comments on Kent Wildlife Trust Written Representation

Ref.	Statement	Applicant's Comment
Response to questions raised at Issue Specific Hearing 4, Biodiversity and nature conservation, from Kent Wildlife Trust		
1	Under agenda point 6a (Arable Reversion Habitat Management Area) Kent Wildlife Trust stated that as we are awaiting further revisions and evidence discussing the sward mix at the next Habitat Management Steering Group would be acceptable.	The meeting notes from the HMSG meeting on 23 August 2019 are provided as Appendix 1 to this submission (Deadline 4 document reference 12.1.2). Updates to the Outline LBMP have been submitted at Deadline 4 to incorporate advice from those discussions regarding the appropriate grassland sward mix for the AR HMA.
2	Regarding the use of the mitigation area by lapwing and golden plover, we welcomed the further information and evidence that will be forthcoming from the applicant and the opportunity to review. We highlighted a key consideration is the applicability of going beyond the figures agreed from Gillings when, in that study, lapwing and golden plover did not select grass pasture.	The Applicant is seeking written confirmation from Dr Gillings regarding his position on the transferability of golden plover and lapwing bird-days. This has not been possible for Deadline 4 but will be submitted to the Examination as soon as possible. Only 4% of the Gillings study area was grass pasture fields. Gillings accounted for the avoidance of grass fields in the study area as due to them being of smaller size and enclosed, as well as being managed on short-term rotation. Sward length of the grass pastures in the study area was not measured, but might also be an attributable factor. The grassland for the AR HMA is intended to be permanent and not on short-term rotation, the fields are large and in a location already known to be used by lapwings and golden plovers and the sward will be managed to be of a length that is attractive for these species. The addition of farmyard manure is also recorded by Gillings as increasing the probability of field occupancy, whilst the Applicant notes that this was in relation to arable, rather than pasture fields. The Applicant is therefore confident that the AR HMA will provide

Ref.	Statement	Applicant's Comment
		suitable conditions with a capacity at least as high as arable land as measured by Gillings.
3	We stated we were happy to wait for the updates to the documents, including the LBMP, including remedial measures and adaptive management, and the opportunity to review them and discuss further the monitoring timescales through the Habitat Management Steering Group.	The meeting notes from the HMSG meeting on 23 August 2019 are provided as Appendix 1 to this submission (Deadline 4 document reference 12.1.2). Updates to the Outline LBMP have been submitted at Deadline 4 to incorporate advice from those discussions regarding the monitoring and adaptive management measures.
4	Regarding precautionality, we stated that the 'Peak Mean' has already been agreed (in the Statement of Common Ground between the Applicant and Natural England) as the required mitigation. This is precautionary in the absence of better information regarding the relative importance of the site within the Swale SPA. We do not see the Peak Mean as precautionary in the argument that the mitigation does not need to reach that level. The Peak Mean is what needs to be achieved.	The Applicant's position is that the AR HMA is sufficient in area to provide resources to mitigate loss of foraging resources for brent goose, lapwing and golden plover from the developed area of the Application site. This is based on the capacity factors described in the Ornithology Technical Appendix, and further details provided in response to Written Questions and Written Representations regarding capacities for geese, lapwings and golden plovers. The Applicant acknowledges that with recalculation of goose capacity for unfertilised grassland within 10 m of ditches, there is a shortfall of 360 goose-days across the winter. The Applicant's position is that this difference is not significant in the context of the number of goose-days supported by the AR HMA, which is supported by Natural England.
5	Under agenda point 6b (Habitat within the solar array for marsh harrier) We pointed out the applicant's answer to the question regarding adaptive management for marsh harrier in the event of behavioural barriers to use of the habitat would not work, and that this is still an uncertainty.	The provision of additional favourable habitat, associated increase in prey species and the more sympathetic management of water levels within the Development site are all factors that are expected to have beneficial effects for marsh harrier that attracts them to forage. It is acknowledged that some individual birds may be dissuaded from utilising the site by the presence of the Development, whilst others will not. The greater availability of prey in the more favourable habitat created is expected to maintain marsh harriers at a population level. Appendices 3 and 10 of the Applicant's Responses to ExQ2 (Deadline 4 document references 12.1.4 and 11) provides the information on the separation between arrays along the northern edge of the Development site. The Applicant is confident that the separations achieved are sufficiently wide that marsh harriers would not be deterred from entering the solar array area from the borrow dyke.

2.16 REP3-082 Natural England

Table 2.16: The Applicant's Comments on Natural England's Written Summary of Oral Submission at ISH4

Ref.	Statement	Applicant's Comment
EN010085 Cleve Hill Solar Park Natural England's submission for Deadline 3: Summary of oral evidence given at the Issue Specific Hearing on Biodiversity (25 July 2019)		
1	Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.	The Applicant notes this comment.
Summary of oral evidence		
Update on provision of a Letter of No Impediment		
2	Natural England can confirm that Letters of No Impediment (LoNIs) were issued to the applicant for water voles and great crested newts on 25 July 2019. In summary, Natural England sees no impediment to a licence for great crested newts being issued, subject to comments made on the Method Statement being incorporated into the formal licence application. Similarly, we see no impediment to issuing a licence for water voles, subject to the provision of updated survey information (it is understood that 2019 surveys have already started) and our comments on the Method Statement being incorporated into the formal licence application.	The Applicant notes and agrees this comment.
Update on Natural England's position regarding adverse effects on the integrity of The Swale Special Protection Area (SPA) and Ramsar site		
3	As set out in our Written Representation [WR-xx], Natural England's view is that potential adverse effects could arise during construction (in terms of noise and visual disturbance, dust, and water quality impacts) and during operation (in terms of loss of habitat for brent geese, lapwings, golden plovers and marsh harriers). We understand that our comments on construction impacts will be addressed through updated documents including the SPA Construction Noise Management Plan and Construction Environment Management Plan. Our view is that to avoid an adverse effect on the integrity of the SPA during operation, there should be no net loss of foraging resource. We are still in discussion with the Applicant, through the Habitat Management Steering Group (HMSG), regarding the provision of mitigation land for SPA birds. Overall, discussions are heading in the right direction, but we are still working on resolving the uncertainties mentioned later in this submission.	The meeting notes from the HMSG meeting on 23 August 2019 are provided as Appendix 1 to this submission (Deadline 4 document reference 12.1.2). It was agreed during the meeting that the mitigation of noise effects has been addressed through the updates to the documentation submitted at Deadline 3 which addressed comments raised previously. Prior to the HMSG meeting, Natural England, Kent Wildlife Trust, RSPB and EA were asked to review the updated documentation submitted at Deadline 3. During the meeting, the updated documents submitted were discussed and no further comments were raised in relation to the Outline CEMP [REP3-006] (including Breeding Bird Protection Plan) and the Outline SPA CNMP [REP3-008]. It was agreed during the HMSG meeting on 23 August 2019 that the mitigation of noise effects has been addressed through the updates to the documentation submitted at Deadline 3 which addressed comments raised previously. Detailed comments on the loss, mitigation and availability of foraging resources for SPA species are provided in the relevant sections below.
Arable Reversion Habitat Management Area (AR HMA) for brent geese		
4	Natural England's view is that the Applicant has used their best efforts to find a solution that ensures no net loss for SPA birds. The	The meeting notes from the HMSG meeting on 23 August 2019 are provided as Appendix 1 to this submission (Deadline 4 document reference 12.1.2).

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	best available evidence suggests that the AR HMA should provide sufficient resource for brent geese, subject to appropriate management being identified and secured through the Landscape and Biodiversity Management Plan (LBMP). This management is the subject of ongoing discussions and we understand the LBMP will be updated to address our comments.	Updates to the Outline LBMP were made at Deadline 3, including details of the management and monitoring of the AR HMA. Following the HMSG meeting, further updates have been be made to the outline LBMP submitted at Deadline 4 to incorporate advice from those discussions. The Applicant understands from the SOCG submitted at Deadline 4 (document reference 12.2.4) that Natural England is still reviewing the LBMP.
5	In our Written Representation [WR-xx] Natural England raised a question regarding whether the avoidance of application of fertiliser within 10m of the ditch system has any effect on the carrying capacity of the AR HMA for geese. Natural England notes the submission by the Applicant at the ISH that taking into account the non-application of fertiliser close to the ditches only makes a difference of 300 goose-days. Natural England welcomes the fact that this calculation has been carried out and will provide further comment once the Applicant has submitted the calculations in writing.	The meeting notes from the HMSG meeting on 23 August 2019 are provided as Appendix 1 to this submission (Deadline 4 document reference 12.1.2). The avoidance of application of fertiliser within 10 m of ditches in the AR HMA results in a difference (reduction) of 3,477 bird-days. The recalculation results in a capacity of the AR HMA at 101,580 goose-days (based on the Vickery et al. capacity figures of 2,097 goose-days/ha in fertilised grassland and 1,562 goose-days/ha in unfertilised grassland), versus 101,940 measured as the average peak-mean during the baseline surveys of the site. During the HMSG meeting on 23 August 2019, Natural England were content that this was sufficiently near the target capacity. The meeting notes from the HMSG meeting on 23 August 2019 are provided as Appendix 1 to this submission (Deadline 4 document reference 12.1.2).
AR HMA for lapwings and golden plovers		
6	In our Written Representation [WR-xx], Natural England set out four areas of uncertainty around the sufficiency of the AR HMA for lapwings and golden plovers: 1. That the lapwing and golden plover days can be combined so that the over provision for golden plovers can make up for the shortfall for lapwings. 2. The fact that a lapwing/golden plover-days figure is not available for pasture, so the calculation of mitigation land requirements is based on arable land in Norfolk. 3. Whether intensive management for geese will hinder lapwings and golden plovers from getting at soil invertebrates. 4. The BTO work in Norfolk1 found birds concentrated in just a few fields, therefore if they averaged over the whole area, the bird days would be much lower. It is not clear from that study why the plovers were aggregating in the fields they did, and whether those conditions will be replicated in the AR HMA.	1. See further detail below in response to point 7. 2. See further detail below in response to point 8. 3. See further detail below in response to point 8. 4. The Gillings study was a large area of farmland that included numerous fields that were completely unsuitable for lapwings and golden plovers, such as unharvested crops of maize, game cover or sugar beet. The bird-days/ha calculations were therefore based on the fields that were occupied, rather than the study area as a whole. Gillings (unpublished thesis) describes these as the 'true densities', since only a limited proportion of the study fields are actively used. The management of the AR HMA is such that it will provide suitable habitat (short-sward grassland) throughout the winter every year, therefore at least similar capacities as those recorded in occupied habitats in the Gillings study are applicable.
7	Natural England notes that the Applicant has discussed the use of the bird-days figures from the Norfolk study with Dr Gillings, and that he had confirmed that it is appropriate to combine the lapwing and golden plover bird-	The Applicant is seeking written confirmation from Dr Gillings. This has not been possible for Deadline 4 but will be submitted to the Examination as soon as possible.

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	days figures. It would be helpful if the Applicant could submit this personal communication into the Examination, but subject to this, the first uncertainty, above, may be resolved.	
8	A bird-days figure is not available for pasture, though grassland can contain more earthworm biomass than arable land. However, Natural England's concern is that this advantage of pasture may be negated by the intensive grassland management for geese. Lapwing, golden plovers and brent geese all prefer a short sward, demonstrating that the grassland management for geese and waders is not necessarily in conflict. Nevertheless, the waders do favour arable land at certain times indicating a preference for bare ground.	It remains the Applicant's position, based on the literature review presented in the Ornithology Technical Appendix (Section 9.6.2, [APP-223]), that the short-sward, fertilised grassland also provides suitable conditions for foraging lapwings and golden plovers. The SSSI grassland in the east of the Application site supported foraging lapwings and golden plovers during the baseline winter surveys. The grassland in that location is established and is therefore not directly comparable to the newly established grassland proposed in the AR HMA, at least not in the initial years; however, it is a closed sward grassland without significant muddy areas. The Applicant has undertaken post-meeting calculations, circulated to the HMSG following the 23 August 2019 meeting and replicated below regarding the measured capacity of the SSSI grassland within the Application site during the baseline surveys. This demonstrates that the SSSI grassland area supported lapwings and golden plovers in densities exceeding that of the arable area: Arable land in Application site (389.8 ha) Lapwing: maximum seasonal peak-mean (2015/16) = 79,777 bird-days = 204.7 bird-days/ha Golden Plover: maximum seasonal peak-mean (2015/16) = 62,911 bird-days = 161.4 bird-days/ha SSSI grassland in Application site (28.7 ha) Lapwing: maximum seasonal peak-mean (2017/18) = 20,196 bird-days = 703.7 bird-days/ha Golden Plover: maximum seasonal peak-mean (2015/16) = 41,850 bird-days = 1458.2 bird-days/ha These numbers are calculated simply on the total area surveyed in each habitat and do not account for potentially unsuitable areas such as proximity to roads, or boundary features, crop type etc. If arable fields that were not used by any lapwings or golden plovers, or those with very low diurnal use (<10 birds) are excluded the resulting arable area used in 2015/16 is 227.2 ha and resulting densities remain lower than densities recorded in the grassland: Lapwing: 351.1 bird-days/ha Golden Plover: 276.9 bird-days/ha
9	In summary, Natural England is working with the Applicant, through the HMSG, to resolve the uncertainties, but management of the AR HMA will be key.	The Applicant welcomes the continued engagement with Natural England to resolve uncertainties and secure the most appropriate management proposals for the AR HMA.
10	Natural England agrees with the Applicant's approach to the management of the AR HMA in terms of concentrating on a full grassland sward, at least in the first few years, as this is necessary to provide sufficient resource for brent geese. Natural England has advised the Applicant to focus on brent geese as this species is more site faithful and has a shorter	The Applicant welcomes the continued engagement with Natural England to resolve uncertainties and secure the most appropriate adaptive management proposals for the AR HMA.

Ref.	Statement	Applicant's Comment
	foraging range than lapwings or golden plovers. However, we note that the application of fertiliser will be helpful in providing some bare patches and invertebrate prey (provided ivermectin-free manure can be sourced, as pointed out by Kent Wildlife Trust). Natural England would support an adaptive management approach that could provide muddy patches later if this would not compromise habitat for geese, and if agreed by the HMSG.	
Timing of the sowing of the grassland		
11	Natural England's advice is that the grassland needs to be sown early in the construction timetable, so that it is providing a foraging resource as soon as possible. This will be necessary to avoid an adverse effect on integrity. Monitoring of the sward development will be required and remedial action taken if necessary.	The updated outline LBMP submitted at Deadline 4 includes a timetable of implementation of the AR HMA grassland at section 16 showing different construction commencement scenarios. The timetable shows that the AR HMA grassland will be sowed in the autumn prior to the first winter in which construction will occur, therefore providing a foraging resource as soon as possible. The monitoring and remedial measures are also set out in the updated outline LBMP at section 15.12. The Applicant also refers to Natural England's agreement in Written Representation paragraph 3.2.8 [REP2-096] that these species will not be adversely impacted in the first winter of construction as there will be sufficient undeveloped area for them to continue to forage.
Monitoring		
12	Monitoring of the AR HMA and the meeting of the HMSG to discuss results may need to carry on beyond the first five years of the solar park operation. However, it is likely that more intensive effort will be necessary in the initial years. Natural England will work with the HMSG to agree an appropriate monitoring protocol.	The meeting notes from the HMSG meeting on 23 August 2019 are provided as Appendix 1 to this submission (Deadline 4 document reference 12.1.2). Updates to the Outline LBMP were made at Deadline 3, including details of the management and monitoring of the AR HMA. Following the HMSG meeting, further updates have been be made to the outline LBMP submitted at Deadline 4 to incorporate advice from those discussions at section 15.12.
Is the approach to the AR HMA sufficiently precautionary?		
13	The Applicant has used their best efforts to achieve no net loss in foraging habitat so as to achieve no adverse effect on integrity using the best available data. Nevertheless, some further detail is required in the LBMP on the points set out above regarding management of the AR HMA. There are also some uncertainties, particularly for lapwing and golden plover, as to whether no net loss will be achieved. Given the uncertainties, there is a need to apply the precautionary principle.	The precautionary principle has been applied in respect of the measurement of baseline use, specifically that a peak-mean metric has been applied, rather than overall average. Further detail on the management and monitoring has been included in the updated LBMP submitted at Deadline 4, as set out in response to the above points.
14	A monitoring protocol and adaptive management measures for remedial action must be secured in the LBMP. These management measures could include changes within the boundary of the site, for example providing supplementary feed for geese if the grass does not grow well, or adjusting the grazing regime. Natural England has discussed the option of providing additional	Further detail on the management, monitoring and remedial actions has been included in the updated LBMP submitted at Deadline 4. The Applicant continues to work with Natural England to resolve the uncertainties and clarifications raised, without recourse to provision of additional land management outside the DCO boundary.

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	land outside the DCO boundary. Our view is that it is not necessary to provide this upfront, as the best available evidence suggests the AR HMA is sufficient. However, a best practice approach would be to retain an option on additional land that could be brought in as part of an adaptive management approach, if measures within the site prove inadequate. This would add security to the conclusion of no adverse effect on integrity. However, we are not at point of requiring additional land yet, but need the additional information with the aim of resolving the uncertainties.	
Is there sufficient detail in the LBMP?		
15	Natural England's view is that there is insufficient detail in the version currently submitted, but we understand that this will be addressed in an updated version to be submitted for Deadline 3.	The Applicant has included further detail on the management, monitoring and remedial actions in the updated LBMP submitted at Deadline 4.
Marsh Harriers		
16	Natural England's approach has been to advise the Applicant to maximise the habitat between the ditches and solar panels, to provide as many small mammals as possible as food for marsh harriers. We have been concerned to provide corridors of as great a width as possible, and avoid 'pinch points' that would be likely to deter birds from flying along the ditches. The Applicant has increased the distance between the ditches and panels to a minimum of 15m from the ditches to help in this regard. Our advice has therefore been that provision of an abundant food resource will encourage individuals to overcome any reticence they might have about entering the solar park site.	The South Swale Nature Reserve and adjacent habitats have historically supported nesting marsh harrier, although not at a consistent level since 2004, with data showing single nest attempts each year between 2013 and 2018 following between 3 and 8 pairs attempting to nest each year from 2004 to 2012 (see paragraph 351 of Chapter 9 - Ornithology of the ES [APP-039]). The data on nesting attempts is helpful in quantification of the carrying capacity of the Order area available, although it is known that other marsh harriers from a wider area also forage at the site. Small mammals are likely to form a proportion of the available prey species for marsh harrier within the Order area. An analysis of the carrying capacity of the Development site in the arable baseline, compared to the with Development scenario for small mammals is provided at Appendix 2 to the Applicant's Responses to ExQ2 (Deadline 4 document reference 12.1.3). Small passerine birds, waterbirds, nestlings and amphibians also form a proportion of the available prey within the Order area. With the exception of skylark, the habitat enhancements at the site are likely to improve conditions for many of these species, but an accurate quantification of this is not feasible. The provision of additional favourable habitat, associated increase in prey species and the more sympathetic management of water levels within the Development site are all factors that are expected to have beneficial effects for marsh harrier. Whilst it is acknowledged that individual birds may be dissuaded from utilising the site by the presence of the Development, the greater availability of prey and the more favourable habitat created is expected to at least maintain the carrying capacity of the Order area at a population level. Appendices 3 and 10 of the Applicant's Responses to ExQ2 (Deadline 4 document references 12.1.4 and 11) provides the information on the separation between arrays along the
17	However, we note the helpful evidence provided by Mr Gomes at the ISH and in his written representation [WR-xx]. In particular we note the evidence on the wide-ranging habit of the species, the importance of arable land in providing food, flight heights and the concern that the change in landscape may cause birds to abandon the site.	
18	Natural England's view is that to be confident in a conclusion of no adverse effect on the integrity of The Swale SPA for marsh harriers, the Applicant should ensure that there is no net loss of foraging resource. Our view is that, subject to the detail on habitat management being set out in the LBMP, the proposed habitat enhancements will result in more food for marsh harriers in both the ditch corridors and the AR HMA. However, if marsh harriers are deterred from using the site by the presence of the panels, this food will not be available to them. Absolute certainty over the response of marsh harriers will not be possible as there are no equivalent sites and the project has not yet been built. Therefore,	

Ref.	Statement	Applicant's Comment
	Natural England will work with the Applicant and the HMSG on the steps to take to resolve the uncertainty. We suggest that the Applicant could calculate the carrying capacity of the DCO area for marsh harriers before and after the proposal, and/or calculate the amount of prey likely to be provided by the different parts of the DCO area, with a view to demonstrating the change in habitat quality and how much food will be provided in different parts of the site. It would also be helpful to provide information on the width of the ditch corridors at the northern part of the site – are they wide enough so that birds are not deterred from entering the site from the habitat along the borrow dyke?	northern edge of the Development site. The Applicant is confident that the separations achieved are sufficiently wide that marsh harriers would not be deterred from entering the solar array area from the borrow dyke.
Ramsar invertebrate feature		
19	The Applicant's answer to question 1.1.7 states that there will be no likely significant effect of the solar panels on Ramsar invertebrates due to the distance and height that separates the panels from the ditch invertebrate habitat. Paragraph 102 of the RIAA also states that all but two of the invertebrate species listed on the Ramsar citation are either saltmarsh specialists or associated with flowering plants (galls) or emergent vegetation (leaf minors). Natural England agrees that for these species there is unlikely to be any interaction, and therefore no likely significant effect. The remaining two species are Micronecta minutissima (a water boatman) and Campsicnemus magius (fancy-legged fly). One of these, C. magius, is a dolichopodid fly that lays its eggs in water and is attracted to horizontally polarised light, and therefore is potentially attracted to solar panels. However, given its habit of skimming low over mud, Natural England agrees with the Applicant that there is not likely to be a significant effect on Ramsar invertebrate species.	The Applicant welcomes Natural England's agreement on this matter.
Is the maintenance of the existing coastal defences 'necessary for the management of the designated sites'?		
20	In their answer to question 1.1.18, the Applicant states that the maintenance of the existing coastal defences is, in part, an action necessary for the management of The Swale SPA/Ramsar because it protects the freshwater components of the designated site from inundation by seawater. Natural England's view is that the sea wall does protect the freshwater habitat, but also contributes to the loss of intertidal habitats through coastal squeeze. Therefore, our advice to the Environment Agency for their assessment of the Medway Estuary and Swale Strategy (MEASS) under the Habitats Regulations, is that the maintenance of the sea wall should not be considered as 'necessary for the management of the site'.	The Applicant welcomes Natural England's agreement on this matter.

Ref.	Statement	Applicant's Comment
21	Natural England is content that the Applicant has confirmed that there will be no flood defence works over and above those likely to be undertaken on an ongoing basis by the Environment Agency to maintain the current standard of protection. As this current standard of protection has been assessed through the HRA of the MEASS, and a strategic approach taken to addressing losses of intertidal habitat to coastal squeeze, Natural England concurs with the Applicant's assessment in the RIAA that there will be no loss or change of SPA/Ramsar habitats as a result of the DCO. Therefore, our view is that the maintenance of the sea wall does not need to be considered as 'necessary for the management of the site', but it can be concluded that it will not have a likely significant effect, as it will not result in any change in habitat over and above that already assessed through MEASS.	
Outline decommissioning and restoration plan		
22	Natural England does not have any comment to make on this document	These comments are noted.
Enhancements on the SSSI		
23	Natural England welcomes the inclusion of part of The Swale SSSI/SPA/Ramsar within the DCO area as it offers opportunities to enhance this part of the designated site. This unit is in favourable condition as it provides grassland for wintering waterbirds. However, there are opportunities for improved water level management and grazing management. Natural England will work with the Applicant on this through the HMSG and would wish to see the detail set out in the LBMP.	The Applicant welcomes Natural England's agreement on this matter and will continue to discuss through the HMSG.
Biodiversity metric calculation		
24	Natural England does not have any specific comments on the metric calculation, but it is helpful in quantifying the habitat gains and losses due to the proposal. However, it should be noted that the metric is just focused on habitats, and does not consider gains and losses in species.	These comments are noted.
CPRE comment on Natural England's funding		
25	Natural England's resources are stretched due to funding cuts. However, the area that we have informed Defra that we will step back from is SSSI condition monitoring, not 'policing' of SSSIs. In relation to the SSSI unit within the DCO area, monitoring carried out by the Applicant will be helpful in informing future Natural England condition assessments, and partnership working in this way will help fill the resource gap.	These comments are noted.
Dormice		
26	Natural England notes the dormouse record supplied by CPRE Kent. A dormouse mitigation licence will be required if there will be an impact on dormice that would	The habitat at Cleve Hill was assessed and considered to be unsuitable for use by hazel dormice due to the predominantly arable field extent, limited food

Ref.	Statement	Applicant's Comment
	otherwise be illegal, such as killing, disturbing or injuring individuals, or damaging, destroying or obstruction access to, their breeding or resting places. Therefore, Natural England recommends the Applicant consider the location of the breeding record and whether there will be any impact from the proposal on habitat potentially used as breeding or resting places, even if that habitat would normally be considered sub-optimal.	density/variety available on site and, lack of arboreal cover/protection present. The watercourse ditches are dominated by common reed only with grassland banks and as such, would not provide suitable food resource, cover and therefore habitat for use by Hazel Dormice. Dormice were therefore scoped out of requiring further presence likely absence surveys. The Applicant is not in agreement that the nest identified is categorically that created by hazel dormice. This is due to the lack of suitable habitat present at both Cleve Hill and the immediate surrounds, as per the original assessment and as detailed above. The photograph of the identified nest is similar in appearance with that associated with winter wren and other small mammals including, harvest mice which are associated with cornfields, hedgerows, reed-beds, brambles, long grass and sometimes open field habitat. Most of which are located at Cleve Hill. As this nest was reported in January 2019 (PTES reference 31366) the nest would likely have been a winter nest and, harvest mice are known to stay close to the ground during the winter period for warmth and insulation. The western boundary is formed by Faversham Creek and forms a barrier to entry for site from the west for any small mammals including dormice. In the event that hazel dormice were present in the offsite habitat identified, further survey would not be considered necessary. This is due to habitat loss on site comprising arable farmland only which dormice would not be likely to utilise and which, is historically/currently cropped. The drainage ditch habitats are also not considered suitable for use by foraging dormice due to the lack of cover available, however watercourses on the west of the Development site will be fully retained and as such, were dormice (if present) to commute along them they would in turn still be able to do so post-development. The risk of committing an offence under UK and European legislation is therefore considered highly unlikely and, further survey/European protected species licencing is not considered necessary.
Great crested newts		
27	As noted above, Natural England has issued a LoNI for great crested newts. Some amendments are required to the Method Statement to support a formal licence application, but overall our view is that the proposal is relatively low impact in terms of habitat loss.	These comments are noted.
Saltmarsh as carbon sequestration		
28	The Environment Agency has calculated the gains and losses of saltmarsh and intertidal habitat through the MEASS, and Natural England defers to them for their view on	The Applicant has engaged with the EA in detailed discussion since September 2017 including responding to the EA's consultation on the MEASS. As a result, the Applicant and the EA have taken each other's positions into account. The

Ref.	Statement	Applicant's Comment
	whether and when realignment is required over the Cleve Hill site to ensure that the amount of intertidal habitat in the Swale is maintained. Natural England's role in the NSIP Examination is to provide advice on the impacts on designated sites. Therefore, provided that the site can be realigned in the future, and the MEASS can be implemented, Natural England is content that the Examination can conclude the maintenance of the sea wall for the lifetime of the proposal will not have a likely significant effect	MEASS is expected to include solutions under either scenario of the Development going ahead or not, and the Applicant is working to ensure that the draft DCO for the project allows for managed realignment to take place on the site if the EA are able to demonstrate that it can be delivered in Epoch 2 (2039 to 2069). To this end, the draft DCO submitted at Deadline 3 [REP3-003] included an updated Requirement 16 which required the Development to be decommissioned following 40 years of operation if the EA can demonstrate that managed realignment can be delivered. That draft Requirement has since been further revised and agreed between the Applicant, the EA and SBC, and was submitted to the Planning Inspectorate on 22 August 2019 [AS-039].

3 OTHER WRITTEN REPRESENTATIONS BY MEMBERS OF THE PUBLIC AND THE APPLICANT'S RESPONSES

3.1 REP2-072 / REP3-057 Bob Gomes (Ornithology)

Table 3.1a: The Applicant's Comments on Bob Gomes' Written Representation received at Deadline 2 [REP2-072]

Ref.	Statement	Applicant's Comment
The Marsh Harrier: Historical Review of the local population		
3.1	The Marsh Harrier was formerly identified as a Red List species of high conservation concern due to a historical decline in numbers during the period 1800 – 1995. Its status has now been reviewed and in Birds of Conservation Concern 4 (BOCC4) 2015 it is now Amber listed due to a recent recovery in the breeding population. It is protected under Schedule 1 of the Wildlife and Countryside Act 1991 and listed under Annex 1 of the EC Birds Directive. Reasons for the need for protection/inclusion in annex I: The Marsh Harrier has suffered a steep decline between 1970 and 1990.The main threats for the species are the loss of wetlands and burning of surrounding vegetation as well as hunting and water pollution. It is also listed in Appendix II of the Bern Convention.	The Applicant notes these comments.
3.2	The Marsh harrier became extinct as a breeding species in Britain in 1899. Re-colonisation began in 1927 but numbers fell again until 1971 when there was just a single pair nesting in Suffolk, followed by a dramatic recovery. In Kent the species was recorded historically as a passage migrant and winter visitor, with numbers fluctuating annually until a pair nested on Preston Marshes in 1942. Following this breeding attempt there was a dramatic national decline, thought to be due to organic pesticides, that was not reversed until 1970s (Underhill-Day1994) The next breeding attempt recorded in Kent was on Sheppey in 1983. Pairs nested again in 1984 and 1989. Numbers then increased to five nests in 1991, 14 by 1994 and 21 – 24 by 1997. Marsh Harriers have been recorded as nesting in Kent away from Sheppey since 1998. The national survey in 2005 revealed 41 nests on Sheppey and 21 nests at nine sites elsewhere in Kent[6]. The number nesting on Sheppey has declined slightly since the national survey but has increased elsewhere in the county. The Swale population is estimated to be c 10% of the national population of breeding females.	The Applicant notes these comments.
Nesting Habitat		
3.3	On Sheppey, reed is the preferred habitat for nesting, but crops are also utilised. In the 2005 survey, 51% of the nests in Kent were in reed, 28% in rape, 14% in wheat and 8% in other habitats, namely grass and field	The Applicant notes these comments.

[6] Oliver, P.J, The Marsh harrier in Kent and the 2005 breeding survey. Kent Bird report 2005.

Ref.	Statement	Applicant's Comment
	beans. Nesting has occurred on the proposed solar park site but it is likely that in recent years some nesting attempts have gone unrecorded owing to the lack of intensive watching by local ornithologists. This is especially so in large fields of arable crops where the nests are often difficult to locate. The standard method to establish occupancy is to watch from a vantage point at 300- 500 metres distance during three visits from mid-March to mid-August. Watches should preferably last four hours. Although breeding was observed during the general breeding bird surveys carried out as part of the EIS and from information supplied by the Kent Wildlife Trust, nesting attempts in other years may have been missed, owing to the time constraints in carrying out breeding bird surveys over an extensive area. I know this from personal experience from watching a suspected nest site in sea club rush in Capel Fleet, Sheppey; the nest was not located until the fourth watch, when it contained well grown young.	
3.4	The solar park will thus, preclude Marsh Harriers from crop nesting and limit the area available for nesting.	The Applicant agrees that arable crops can provide suitable nesting habitat for marsh harrier and the installation of the solar arrays will reduce the potential nesting area in that type of habitat. However, 0.5 ha new reedbed creation is proposed and enhancements to some of the ditch network is expected to provide new nesting opportunities for marsh harrier. Improvements to the aquatic environment through improved water management as a result of the Development might also improve the status of the reedbed in the South Swale Nature Reserve which appears to have seen a reduction in nesting attempts in the current decade.
3.5	It is also likely that nesting sites in the borrowdyke[7] reed bed will be subjected to disturbance during construction phase, because the presence of potential nest sites will not have been detected without intensive watching. Marsh Harriers are vulnerable to disturbance during the early stages of the nesting cycle; nest visits or activity near to the nest can cause desertion during incubation or when the nests contain small young. To avoid illegal disturbance to this protected Schedule 1 species it will essential to carry out adequate pre-construction and during-construction nesting bird surveys.	The Applicant disagrees that nesting attempts will not have been detected. The Breeding Bird Protection Plan in the outline CEMP (Deadline 4 submission document 6.4.5.4, Revision C) provides measures to protect nesting birds from disturbance, including additional measures for marsh harrier. This is additional to the breeding season setback exclusion zone from the SPA for noisy construction activities such as piling that is defined in the outline SPA Construction Noise Management Plan (Deadline 4 Submission document reference 6.4.12.10, Revision B).
Ranging Behaviour		
3.6	Marsh Harriers use a variety of wet and dry habitats. They nest in beds of common reed, crops (as identified above) and rough grass. In both summer and winter, they hunt over dry arable farmland, reed beds, flooded grassland and saltmarshes.	The Applicant notes these comments.
3.7	When nesting, Marsh Harriers defend only the immediate area in the vicinity of the nest, the	The Applicant notes these comments.

[7] The wide dyke alongside the seawall from where clay was extracted to build the wall.

Ref.	Statement	Applicant's Comment
	nesting territory which has a radius of about 100 – 300 metres. They do, however, range out extensively over surrounding land and have a home range over which they forage for prey. The extent of this home range varies and is generally larger for males than for females that hunt closer to the nest site. In East Anglia studies by John Underhill-Day recorded males hunting up to 7 km from their nest site. In East Anglia, in one study site, the home range of the males varied with the stage in the breeding cycle from 569 ha during courtship to 1,407 ha during the post fledging period (Underhill-Day, 1990). Females have smaller home ranges, but these increase in size when they start to feed young (from 100 – 1,300 ha). It is not unusual for the hunting ranges of neighbouring birds to overlap and hunting ranges are not defended.	
3.8	R. Clarke, in his book "The Marsh harrier"[8] gives additional information on territorial behaviour and hunting: "Once the young have hatched , the males abruptly extend their activities beyond the nesting territory by making long foraging flights into surrounding , often marginal or arable land. The reason for this is very clear. Unless a particularly rich source of waterfowl is available, marshland hunting is not very productive. At TItchwell in one season, Sills (1983) observed that it took a male an average of 27 minutes to catch prey in the marsh, and it was likely to be a small item such as a fledgling passerine: prey was caught on average every 17 minutes on average on farmland and was usually a much heavier young Pheasant, Rabbit or Starling. Sills calculated that farmland was ten times more productive in terms of weight of food per minute of hunting" The ES recognises the importance of field margins and ditches for foraging harriers and that arable crops are not favoured foraging habitat (Habitat Loss/Change – para 359) but the extent to which prey from arable fields, as opposed to marginal land, contributes to food provisioning to the young is not known. The obliteration of the arable farmland used by foraging harriers may thus have an adverse impact on the local harrier population.	The Applicant recognises that the installation of the solar arrays will prevent marsh harriers from foraging in that space and some loss of foraging opportunity from arable habitat will occur. However, when undertaking flight activity surveys in the site, it was clear that the majority of foraging activity was concentrated on the borrowdyke, ditch habitats and associated grassland strips in the field margins. Small mammals are likely to form a proportion of the available prey species for marsh harrier within the Order area. For example, Dijkstra & Zijlstra 1997 highlight the likely importance of voles in marsh harrier diet on reclaimed land in the Netherlands. An analysis of the carrying capacity of the Development site in the arable baseline, compared to the with Development scenario for small mammals is provided at Appendix 2 to the Applicant's Responses to ExQ2 (document reference 12.1.3). Small passerine birds, waterbirds, nestlings and amphibians also form a proportion of the available prey within the Order area. With the exception of skylark, the habitat enhancements at the site are likely to improve conditions for many of these species, although an accurate quantification of this is not feasible. The provision of additional favourable habitat, associated increase in prey species and the more sympathetic management of water levels within the Development site are all factors that are expected to have beneficial effects for marsh harrier.
3.9	Clarke continues: "How far might a harrier range from the nest? Maximum hunting distances form nests by male Marsh Harriers were recorded by Schipper et al (1977) In Holland and France at only 1.5 to 3.1 km, females ranging only 1.4 to 1.8 km.: they quoted other researchers as recording 5 – 8 km. The sizes of hunting ranges quoted by Schipper et al vary from 250 – 680 a ha for males and 80 to 370 ha for females. At	The Applicant notes these comments.

[8] Clarke, R. (1995). The Marsh harrier. Hamlyn Species Guides.

Ref.	Statement	Applicant's Comment
	Titchwell , hunting ranges out over arable farmland , inland of the coastal breeding marsh were measured for individual males in 1982 and 1983 at a much larger 1250 ha and and 1000 ha respectively. Elsewhere in East Anglia, Underhill-Day (1989)[9] calculated 217 ha, during the courtship phase, 1112 ha during the nestling period and 310 ha during the fledgling period. It seems clear that so far as range sizes go, it all depends on the habitat, prey density and the stage of the breeding cycle."	
3.10	A radio tracking study of the ranging behaviour of foraging Marsh Harriers in agricultural landscapes in Spain[10] showed similar large home ranges in both irrigated and non-irrigated landscapes. The authors showed that "During the nesting period, as with other raptors having large home ranges, radiotagged Marsh Harriers in our study, nesting in the same area or nearby, showed partial or total overlap of their home ranges."	The Applicant notes these comments.
3.11	The above studies show that Marsh Harriers hunt extensively over arable farmland and that individuals from different nests will hunt over the same area of arable land. A pair nesting locally in, for example, the adjacent South Swale Nature Reserve may therefore require the whole of the proposed development site to provision its young with food in both the nestling and post fledging period. This is indicated in the flightline studies carried out as part of the EIS and in the accompanying text. Although there is a concentration of records in the sea wall borrowdyke along the northern boundary of the proposed solar park site, the maps also show several flightlines traversing the arable fields. There is, however, no indication from the flightline studies as to where Marsh Harriers captured prey, or if the flightlines referred to locally breeding birds or birds from further afield or how many individuals are involved. There is anecdotal evidence from local birdwatchers that Marsh Harriers cross the Swale regularly between the South Swale Marshes and the Isle of Sheppey; the behaviour is now so commonplace that it hardly receives a mention from local birdwatchers. I, too, have witnessed this on several occasions and have observed birds crossing the Swale from the Isle of Sheppey to hunt on Nagden and Cleve Marshes and returning to Sheppey with prey or to roost in the evening. PJ.Oliver in a study of flight heights of Marsh Harriers in a breeding and wintering area on the Isle of Sheppey states	The Applicant notes these comments.

[9] Underhill-Day, J. (1989) Ardea 77, 47 -55.
[10] Cardador,L., Manosa, S., Varea, A. and Butolo,A. (2009) Ranging Behaviour of the marsh harrier Circus aeruginosus in agricultural landscapes. Ibis.

Ref.	Statement	Applicant's Comment
	that Marsh Harriers routinely cover distances of 2 – 3 km.	
3.12	Flighting across the Swale is not confined to Marsh Harriers during the breeding season. In 1986 I was involved in species protection of a pair of Montagu's Harriers that nested in a wheat crop below Harty Hill on Sheppey. The male crossed the Swale regularly to hunt on the south side of the Swale and I witnessed it returning with small prey to the nest site on several occasions.	The Applicant notes these comments.
3.13	Similarly, Hen Harriers move between Sheppey and the south side of the Swale and may be seen returning to roost on Sheppey after spending the day hunting on the marshes on the south side of the Swale. In a series of winter roost counts in the late 1980s/90s at a saltmarsh roost below Mocketts Farm on Sheppey my colleague and I regularly recorded both Hen and Marsh Harriers returning from the south side of the Swale to roost at dusk. In the 2018/19 winter I recorded an adult male Hen Harrier that was hunting on Cleve Marshes flighting across the Swale to Shellness at dusk. On two other occasions in 2019 I saw a hen harrier go to roost in the reed bed on the KWT South Swale Nature Reserve.	The Applicant notes these comments.
3.14	The proposed development land is thus functionally linked to the Swale SPA and is integral to the successful ecological functioning of the Swale Marsh Harrier population and probably to other harrier species both in the breeding season and during winter. That Marsh Harriers cross the Swale regularly to hunt on Nagden, Cleve and Graveney Marshes indicates that the proposed solar park development site is necessary for their survival throughout the year. It is highly unlikely that that the solar park once constructed and operational will provide an adequate food resource and area for such wide-ranging species as harriers.	The Applicant notes these comments.
3.15	Harriers are generalist predators and fly low to drop on any prey that can be surprised on the ground. They rarely pursue flying prey. A wide range of prey is cited in the literature, including small mammals, waterfowl, wader chicks, frogs and small passerines, notably skylark and other farmland birds.	The Applicant notes these comments.
3.16	Skylarks are present throughout the proposed development site and one of the species that will be greatly reduced in numbers by the construction of the solar farm. This is acknowledged by the applicant. Studies of the distribution of Skylark territories is influenced not only by habitat but also by the distribution of tall vertical structures such as electricity	As described above, the Applicant's position is that the provision of favourable foraging habitat between the arrays, associated increase in prey species available (with the exception of skylark) and the more sympathetic management of water levels within the Development site are all factors that are expected to have beneficial effects for marsh harrier.

Ref.	Statement	Applicant's Comment
	pylons and other structures that can be used by potential predators[11]. Because of this, Skylarks show a strong preference for larger fields or fields with lower boundaries, because this gives them the opportunity to avoid nesting near tall hedgerows or woodland. They generally avoid nesting near to tall vertical structures. They also avoid nesting close to roads. Skylarks will nest in smaller fields where boundaries are low, Although the skylark population on the proposed development site is of local significance only and thus not functionally linked to the SPA, any reduction in skylark and other farmland bird numbers will reduce a potential food resource and could adversely impact on internationally protected Marsh Harriers and other raptors that depredate Skylarks and other passerines.	
3.17	Marsh Harriers while hunting, typically fly over the ground at a height of 2 – 6 metres, i.e within the height range of the solar panels. P.J.Oliver[12] studied flight heights of Marsh Harriers in a breeding and wintering area on the Isle of Sheppey. He recorded percentage time spentin three height bands: < 20 metres, 20 – 60 m and >60; his data showed that 51.8% of flights in the period March to July were in the height range below 20 metres. This increased to 85% of flights in the period September to February. Proposed mitigation mentions leaving corridors, bordered by grass along some of the ditches. Flightline studies carried out as part of the environmental assessment also show that the majority of marsh harrier flights is in the 0 – 10 metre range. I note that the corridors have been extended from the original width of five metres either side of the ditches to 15 metres, but such corridors will be very narrow in the context of the large scale development proposed. In my opinion, the Marsh Harriers, foraging within the above height ranges will find these narrow corridors too confining, especially if they have to cross large boundary fences and fly over a vast array of panels to reach hunting grounds that post construction, will be much reduced and confined to ditches bordered on either side by solar panels and other structures. Sightlines will be severely limited and fragmented by the array of panels, supporting stilts and other structures. In Chapter 9 of the Environmental Statement, 9.5.3..25 Habitat Loss/Change - Paragraph 360 the author mentions that he has "witnessed a marsh harrier foraging along the edge of Old Rides Solar Farm on Sheppey on one occasion, where there is a narrow strip of	The Applicant notes these comments, which have stimulated discussions at meetings with the Habitat Management Steering Group. The meeting notes from the HMSG meeting on 23 August 2019 are provided as Appendix 1 to this submission (Deadline 4 document reference 12.1.2). The Applicant's position is that the inter-array grassland areas are sufficiently large to support foraging marsh harriers and that they will not be deterred from entering the areas between the solar arrays. The Applicant has acknowledged that there is an absence of evidence in the scientific literature either way (acceptance or deterrence) to inform the assessment in relation to the reaction of marsh harriers to the presence of solar panels.

[11] Donald, P.F. (2004). The Skylark. T & A D Poyser
[12] Oliver, P.J., (2013). Flight heights of marsh harrier in a breeding and wintering area. British Birds 106

Ref.	Statement	Applicant's Comment
	grassland between the panels and the adjacent arable field" . The Sheppey solar farm is a development within an extensive arable and marshland landscape, quite unlike the industrial landscape that will result from the proposed Cleve Hill proposal. In fact, such an alien industrial landscape with narrow corridors along ditches bordered by a vast array of solar panels and supporting pillars and other structures may even cause birds to abandon the site.	
3.18	The applicant has shown no willingness to mitigate the loss of vast open fields by providing large blocks of land within the developed area that are free of panels or to provide a substantial 100 – 200 metre buffer zone alongside the borrowdyke at the northern boundary of the site. Such habitats could provide habitat for ground nesting birds and have other biodiversity benefits. The only concession is to increase the corridor width alongside ditches from 5 to 15 metres either side of the ditch. The whole area will be extremely fragmented. The applicant implies in its responses to the subject of breeding Marsh Harriers that there are alternative feeding areas elsewhere locally. I disagree and in my opinion the whole of the proposed development area is necessary for the ecological functioning of the Swale harrier population. I ask that the examining authority take not of my concerns outlined above and my objection to this development.	The Applicant's position regarding the provision of suitable nesting and foraging habitat for marsh harriers is as set out in the points raised above. The Applicant concludes that there will not be an adverse effect on the integrity of The Swale SPA with respect to breeding marsh harrier.
4	***Management of the Arable Reversion:***	
	Brent Geese	
4.1	Dark-bellied Brent Geese Brent Geese, Lapwing and Golden Plover will be displaced from the arable fields by the construction of solar panels. The primary aim of management of the arable reversion fields is to provide a sward suitable for grazing Brent geese during the winter months and for foraging Lapwing and Golden Plover. The carrying capacity of these fields has been subject to debate and is currently under discussion within the Habitat Management Group. I note that 50.1 ha of the 56 ha arable reversion to grassland is identified as functionally available grassland after taking account a 50 metre avoidance zone near the solar panel arrays in which there may be a reduced density of birds. The calculations on usage of the 50.1 ha of functionally available grassland assumes that birds will be use the entire area of the arable reversion. My experience from observations in recent winters, of Brent Geese using both the arable fields and SSSI grassland to the east of the proposed development is that the Brent Geese flock generally feeds within 300 m of the seawall and occasionally just beyond to 500 metres. I have not seen Brent Geese	The baseline surveys recorded brent geese within the site further than 500 metres from the sea wall (390 birds approximately 550 m from the sea wall on 15/12/15; 900 birds c. 550 m from the sea wall on 18/2/15 and 26/2/15) and also during a supplementary survey on the Isle of Sheppey (350 birds at Leysdown Marshes approximately 1.2km inland on 6/3/18). On this basis, the Applicant's position is that geese could use the whole of the AR HMA. During its establishment in the first winter, the first growth is expected to provide suitable foraging for brent geese – this is similar to the first growth of winter wheat for example, which the brent geese also forage on. During the early stages of construction, the AR HMA will be available, as will other areas of undisturbed grassland sown in other areas of the site that are not under construction at the time, therefore other resources will also be available within the site.

Ref.	Statement	Applicant's Comment
	venture inland to the innermost portions of these fields. Thus, contrary to what is written in Chapter 9 para 204, 50.1 ha may be insufficient to mitigate for the average loss of resources provided by the arable baseline. The calculations used to determine the capacity of the AR HMA to support Brent Geese in the future used data from established grass swards. It is likely that the carrying capacity of these fields, sown with a grass seed mix will be reduced in the first or second season or until a dense sward develops. This will result in a net loss for this species in the first years, post construction.	
Grazing Marsh Grassland Management Plan		
5.1	In the technical appendices, In the aims and objectives of the Grazing Marsh Management Plan 6.1 Para 22 it states that the aim of the GMGMP is to establish a grassland sward with greater ecological value than the existing arable land. It is also designed to be maintainable in perpetuity…	The Applicant notes these comments.
5.2	6.4 Seed mix states that it is envisaged that Emorsgate EM3 – Special General Purpose Meadow mixture will be suitable as detailed in Table 5.1	The Applicant notes these comments.
5.3	Whilst the above floristically rich seed mix may be suitable for meadow creation on the Wealden Clays of mid Kent, in my opinion it is not a suitable mix for establishment on the heavy, slightly brackish clays and silts characteristic of the North Kent Marshes. It is unlikely to persist and meet the aim of being maintained in perpetuity. Its value to wildlife, especially foraging insects is likely to diminish within a couple of years after the initial establishment. The grazing marsh grassland in north Kent is generally floristically poor and the dominant community is a variation of the MG6 Perennial Rye grass Lolium perenne - Crested Dogstail Cynosurus cristatus grassland community. Meadow Barley Hordeum secalinum is an important component of this community. In damper ground this is replaced by the MG11 community Red Fescue Festuca rubra - Creeping Bent Agrostis stolonifera - Silver Weed Potentilla anserina community[13]. The creation of flower rich meadows in this landscape is unlikely to succeed other than on drier banks and sea walls.	The Applicant notes these comments.
5.4	I am surprised to see both Agrostis capillaris Common Bent and Puccinellia maritima Saltmarsh Grass included as species that need to be included in the mix. A.capillaris is a grass of acid ground in Kent and P.maritima is a dominant grass of saltmarshes in the intertidal area. It is seldom a component of	The Applicant notes these comments, which stimulated discussion at the Habitat Management Steering Group meeting on 23 August 2019. As a result, the sward mix proposed for the AR HMA has been modified in the updated LBMP submitted at Deadline 4.

[13] Rodwell, J.S., (1992) British Plant Communities Volume 3. Grassland and montane communities. Cambridge University Press.

Ref.	Statement	Applicant's Comment
	grass swards landward of the seawall other than on the berm between the seawall and borrowdyke and even here it is rarely encountered.	
5.5	Although given as options, the lists of Emergent Plants (options) and Margin Wildflowers (Options) appear to be sloppily put together and show little regard for the natural distribution or the ecology of species in Kent[14]. I have the following comments:	The Applicant notes these comments and is continuing to work with the Habitat Management Steering Group to update the outline LBMP in this regard.
	Emergent Plants	
	Reed Sweet-grass Gyceria maxima: can be invasive and generally more common in watercourses away from coastal marshes. Arrowhead: Sagittaria aquatilus. Specific name should be sagittifolia. A plant of rivers, canals and edges of lakes. Only found in SW & S Kent and the Stour Valley. Water Crowfoot: Not known in the north Kent Marshes west of Thanet. The common water crowfoot in the local area is R.baudotii Brackish Water-crowfoot. Flowering Rush Butomus umbellatus: not known from the north Kent Marshes in this area. Stinking Iris Iris foetidissima: This must be an error. Stinking Iris is a plant of hedgerows, woodland and scrub. Not an aquatic plant.	The Applicant notes these comments and is continuing to work with the Habitat Management Steering Group to update the outline LBMP in this regard.
	Margin Wildflowers	
	Sneezewort Achillea ptarmica. Known in this area in just one tetrad on Sheppey. Otherwise recorded in 12 tetrads in west Kent and one tetrad in east Kent. Wild Angelica Angelica sylvestris. Not a plant of coastal grazing marsh Meadowsweet Filipendula ulmaria. Not a plant of the north Kent Marshes. Water Avens Geum rivale. Native. Extinct in Kent. Purple-loosestrife Lythrum salicaria. Only recorded in one tetrad in this area. 5.6 In terms of future management of the ditches it would be preferable to encourage natural regeneration of the typical ditch flora of the area that is confined to sites on or near the coast of southeastern England rather than introduce the above species that are alien to the North Kent Marshes. This would include plants in the Ceratophyllum sumersum community such as C. submersum, Potamogeton pectinatus and Ranunculus baudotii. Emergent vegetation often includes Phragmites australis and Bulboschoenus maritimus as dominant species.	The Applicant notes these comments and is continuing to work with the Habitat Management Steering Group to update the outline LBMP regard.

Table 3.1b: The Applicant's Comments on Bob Gomes' Written Summary of Oral Submission received at Deadline 3 [REP3-057]

Ref.	Statement	Applicant's Comment
1	You have my written representation where I make a number of points relating to the local	The Applicant notes these comments and refers to the Applicant's responses to Mr Gomes' D2 submission in Table

[14] Philp, E.G., (2010) A New Atlas of the Kent Flora. Kent Field Club.

Ref.	Statement	Applicant's Comment
	breeding marsh harrier population and to the habitat management area. To put the marsh harrier population in context, although the population has increased since 1990s this is one of the UK's rarer breeding birds with a population of circa 361 pairs. This puts it scarcer than another iconic bird of prey the Golden Eagle with a breeding population of c 508 pairs. And much rarer than the introduced Red kite with a population of c 1600 pairs in the summer. Of the 361 total pairs recorded in 20161 (the latest year that pop figures are available) SE England ranks high, with 49 confirmed pairs, possibly 56 pairs Kent with 36 pairs represents 10 % of the national total. The majority of the Kent population is within the Swale SPA, circa 24 pairs representing about 6.7 % of the UK population. I do not believe it is possible under the present plan to mitigate adequately for breeding marsh harriers for the following reasons.	3.1a above.
2	Marsh Harriers are wide ranging birds of open countryside, to some extent opportunistic feeders taking a wider spectrum of prey. Whilst I accept the flightline data in the applicants Environmental Statement showing a preponderance of hunting along the northern borrowdyke it also shows that birds fly frequently over the arable fields. There is, however, no data showing to what extent the arable contributes to food provisioning during both within and outside the breeding season. (This is too time consuming to carry out during a general breeding bird survey). Studies on Sheppey and in East Anglia demonstrate that arable fields are a significant food resource for harriers in the latter part of the nesting cycle This is especially so when they are provisioning large young in the nest, when birds take larger items of prey, game birds and on Sheppey Lagomorphs, hairs and rabbits; passerines such skylarks and starlings also feature in the diet. The arable habitat will disappear under the vast array of solar panels and the food resource will be much diminished. Skylarks, for example, will largely disappear from the proposed development site.	The Applicant notes these comments, which have stimulated discussions at meetings with the Habitat Management Steering Group. The meeting notes from the HMSG meeting on 23 August 2019 are provided as Appendix 1 to this submission (Deadline 4 document reference 12.1.2). The Applicant refers to the responses to Mr Gomes' D2 submission in Table 3.1a above. The Applicant's position is that the inter-array grassland areas are sufficiently large to support foraging marsh harriers and that they will not be deterred from entering the areas between the solar arrays. The Applicant has acknowledged that there is no reliable scientific evidence either way to inform the reaction of a marsh harriers to the presence of the solar panels.
3	We are also aware that it is not just local birds breeding on the south side of the Swale that exploit the arable fields. The foraging	The Applicant refers to the responses to Mr Gomes' D2 submission in Table 3.1a above.

Ref.	Statement	Applicant's Comment
	range of breeding marsh harrier can extend to over 1000 ha. with some birds flighting up to 5 -8 km from the nest site. Breeding harriers from Sheppey also cross the Swale to hunt and have been seen crossing the Swale from Cleve Marshes and elsewhere on the south side in a northward direction carrying prey. In a 2006 study on Sheppey, a breeding harrier was seen taking prey from Sheppy to a nest on the south side of the Swale. The land is thus functionally linked to the Special Protection Area in respect to Harrier species and in my opinion the proposed development site is critical for maintenance the local Swale population of marsh harriers.	
4	The ES refers to birds being able to hunt along the ditch corridors that have been increased from their original 5 metre width alongside ditches to 15 metres. When hunting marsh harriers quarter the land in broad wavering lateral sweeps. Post construction, marsh harriers will be presented with narrow flightlines (in the context of the large scale development) where their vision will be impeded by the supporting structures and panels, well within the height of the marsh harriers foraging height of < 10 metres.	The Applicant refers to the responses to Mr Gomes' D2 submission in Table 3.1a above.
5	My other main concern is that marsh harriers are very susceptible to disturbance during the early part of the nesting cycle. With increasing use of the seawall for recreation by the ever-increasing population of Faversham it is likely that marsh harriers will be deterred from nesting in the borrowdyke. We know that in the past MRs have nested in the arable crops and in dykes running through these fields. The proposed development will thus remove alternative nesting sites or render them unsuitable for nesting due to the enclosed nature of the ditches.	The Applicant refers to the responses to Mr Gomes' D2 submission in Table 3.1a above.
6	The ES mentions pre-construction monitoring to locate pairs of marsh harriers. To do this adequately is very time consuming and would be necessary from late winter throughout the spring to establish nesting behaviour. Breeding pairs can occupy nesting areas from late January The standard survey method is at least three visits of four hours duration from mid March to mid August. I am unclear as to how construction work will be able to avoid illegal disturbance to nesting harriers that are a protected in law as a Schedule 1 species under the Wildlife and Countryside Act, without severely hampering the construction timetable, especially if there is more than one pair within the proposed development.	The Breeding Bird Protection Plan in the outline CEMP (Deadline 4 submission document 6.4.5.4, Revision C) provides appropriate measures to protect nesting birds from disturbance, including additional measures for marsh harrier. This is additional to the breeding season setback exclusion zone from the SPA for noisy construction activities such as piling that is defined in the outline SPA Construction Noise Management Plan (Deadline 4 Submission document reference 6.4.12.10, Revision B).
7	I also have one comment relating to the use of the fields in the winter by Dark-bellied Brent Geese. I am aware that there has been	The Applicant refers to the response to Mr Gomes' D2 submission at paragraph 4.1 in Table 3.1a above.

Ref.	Statement	Applicant's Comment
	discussion of the carrying capacity of the habitat management area within the habitat management group. The area calculation presumably assumes that the geese will use the total area of the 50.1 ha of fields enhanced for them. My observations to date show that the goose flocks generally feed within 300 metres or so of the seawall and rarely venture far inland. I doubt that the Brent Geese will feed at some distance from the seawall in the early stages of the sward development and so there will be a net loss in the habitat available to them in the early years post construction. Thus, contrary to what is written in Chapter 9 para 204, 50.1 ha may be insufficient to mitigate for the average loss of resources provided by the arable baseline	

3.2 REP2-060 / REP3-058 Dr Bruno Erasin (Agricultural Land Classification)

Table 3.2a: The Applicant's Comments on Dr Bruno Erasin's Written Representation [REP2-060]

Ref.	Statement	Applicant's Comment
Introduction		
1	I would like to express my objection to the Cleve Hill Solar Park development and Soils and Agricultural Use and Quality report submitted to the Planning Inspectorate, based on the incomplete and incorrect interpretation of the Agricultural Land Classification guidelines as set out by the Ministry of Agriculture, Fisheries and Food document October 1988 (presented in Appendix I).	The Applicant can confirm that the report has been undertaken in strict accordance with the MAFF 1988 Revised guidelines and criteria for grading the quality of agricultural land.
2	Cleve Hill Solar Park development engaged Land Research Associates Ltd to conduct a Soil and Agricultural Use and Quality survey at Cleve Hill Farm near Faversham, Kent, the land being proposed as the site for a solar farm development. The report 1294/1 was dated 22nd March 2017 (presented in Appendix II) and on-site field work was conducted either in the first or second week March 2017 (which is based on the laboratory report prepared by NRM and sample receipt dated 13/03/2017, presented in Appendix III).	
3	The overall conclusions of the Cleve Hill Solar Park SALUQ 2017 report were that 'the site to be dominated by heavy clay soils with impeded subsoil drainage, with soil wetness limiting agricultural quality to subgrade 3b', which equals about 359.9 ha or 97.1% of the surveyed land.	
4	As detailed above I consider that the Cleve Hill Solar Park SALUQ 2017 report is: - 'Biased', meaning that the field survey was undertaken at an unsuitable period of year	The Applicant advises that LRA carry out surveys 12 months of the year because the timing of ALC survey has no bearing at all on the grading. This is because Wetness Class is judged only on:

Ref.	Statement	Applicant's Comment
	leading to a 'predetermined' outcome; - Has incorrectly interpreted and applied the ALC MAFF 1988 guidelines; - Provided insufficient quantitative data to justify the classification of land as Subgrade 3b.	i) Site-specific duration of field capacity days derived from the long term averages within the Met. Office 1989 25 year Climatological Dataset for Agricultural Land Classification (in accordance with the MAFF 1988 ALC guidance) ii) Soil morphological evidence (i.e. presence of gley phenomena which indicate the depth of seasonal waterlogging) and depth to slowly permeable layers (i.e. permanent features of the soil which do not change).
5	Re-evaluation of the limited data presented in the Cleve Hill Solar Park SALUQ 2017 report and using actual, local metrological data for the Cleve Hill Farm site, it can be concluded that the majority of the land can indeed be interpreted as Grade 2 (very good agricultural land) and Subgrade 3a, as good agricultural land.	The 2017 report utilises 25 year climatic averages interpolated for the site, derived from the Met. Office 1989 Climatological Dataset for Agricultural Land Classification (see paragraph 3.2 of the 2017 report). This is strictly in accordance with the MAFF 1988 ALC Guidelines. The use of short- term weather station data (or any other dataset) is not appropriate or in line with the ALC Guidelines.
6	This report sets out to the Planning Inspectorate to present evidence that the Cleve Hill Solar Park SALUQ 2017 report presented incomplete and incorrect information and has not provided sufficient quantitative evidence.	These comments are noted.
7	I am a private UK citizen and have no interest to the land comprising the Cleve Hill Solar Park development.	
	I have experience in conducting ALC assessments in accordance with the ALC MAFF 1988 guideline document.	
Preliminary comments of the Cleve Hill Solar Park SALUQ report 2017		
8	Before going into details of the actual technical details of the Cleve Hill Solar Park SALUQ 2017 report, the following preliminary short-comings of the report submitted to the Planning Inspectorate are highlighted: - There are 23 field observations missing within the report for field observation points 123 to 156 and no reason given why this data has been omitted; - No data is presented for field observation points 27, 67 and 157. Again no explanation was provided why this data has been omitted; - There are typographical errors in the drawing representing the observation point locations, with number 147 presented twice, and observation point 148 appearing in the incorrect sequence and observation point 158 not presented in the drawing; - No compass rose presenting North; - The majority of the field observation points do not reach target depth of 120cm as detailed in the ALC MAFF 1988 guideline.	The Applicant advises that there is a page missing from the appendix submitted with the 2017 ALC report (covering auger logs 123 to 156). These are available but do not affect the grading. The missing pages are included in the Deadline 4 submission as Appendix 14 of the Applicant's Responses to ExQ2 (Deadline 4 submission document reference 12.1.15). The absence of three logs and some incorrect formatting of the location points do not affect the grading.
9	Based on the Cleve Hill Solar Park SALUQ 2017 report presented to the Planning Inspectorate, it is evident that the report is incomplete and inadequate as the target depth of 120cm has not been achieved at the	'TARGET' depth – wetness limitations occurred within 80 cm, the majority of augers go down to 100 cm depth. A full and complete assessment with regard to ALC grading can be made on these augers.

Ref.	Statement	Applicant's Comment
	majority of field observations and insufficient data has been presented to assess ALC in accordance with MAFF 1988 guidelines.	
ALC assessment criteria as set out in ALC MAFF 1988 guideline		
10	Agricultural Land Classification in accordance to MAFF 1988 guideline (presented in Appendix I), details a number of higher-level assessment criteria of how to grade agricultural land including: - Climatic limitations - Site limitations - Soil limitations - Interactive limitations including soil wetness and droughtiness and soil erosion	As observed previously (see comments 4 and 5), this is a fundamental misunderstanding of the way in which ALC grading is undertaken – timing of survey is not a factor in the resultant grade.
11	Among these higher-level assessment criteria, the Wetness Class of the topsoil and subsoils are critical factors, as soil grading follows the principal that the most limiting factor is used for grading agricultural land.	
12	It appears that the Cleve Hill Solar Park SALUQ 2017 report was over reliant on the Wetness Class specification of the topsoil and subsoils on a single survey at a given time to predominately Wetness Class III and grade the land as Subgrade 3b, which was undertaken at a 'biased' time of year and on one event.	
Wetness assessment – topsoil		
13	The MAFF 1988 guidelines set out a three-stage assessment (page 22) namely: a) Determine the soil wetness class, according to Appendix 3 (Table 11) of the MAFF 1998 guidelines b) Relate soil wetness class to soil texture and media field capacity days using Table 6 where the top 25 cm is a mineral texture or Table 7 where the top 25 cm is an organic mineral or peaty texture. c) In order to determine a Wetness Class of topsoil/subsoils, the MAFF 1988 guideline sets out the procedure to obtain field observation to assist in the assignment of Wetness class to a particular topsoil and subsoil as described in pages 37-38, and compares to Figure 7 and Figure 8.	Table 11 is <u>not</u> used in the determination of Wetness Class in the 1988 MAFF ALC guidelines. The procedure for assessing Wetness Class is set out on pages 37 & 38 of the 1988 MAFF ALC guidelines. This is the method accorded to in the 2017 report.
Wetness class assessment of Subsoil		
14	In accordance with MAFF 1988 guidelines the subsoils (i.e. those soils below the topsoil) are assessed by: - Duration of field capacity - Presence of gleyed horizon - The depth to slowly permeable layer	
15	Field assessment of the top soil, upper subsoil and lower subsoil is generally obtained by advancing hand-augered boreholes to about 120cm depth.	As explained (see comment 8) it is rare to extend boreholes to full 120 cm. This has no material bearing on the grading of the majority of the land as subgrade 3b due to wetness limitations.
16	The target depth of 120cm depth is because	The Applicant notes that this is of no relevance to the grading

Ref.	Statement	Applicant's Comment
	the roots of winter wheat (used for the MAFF 1988 guidelines) grow typically to a depth of 120cm below ground level, whereas potatoes (used for the MAFF 1988 guidelines assessment) are assessed to a growing depth of 70cm, as potato roots do not grow significantly deeper (detailed at page 25 of the MAFF 1988 guideline).	of this land according to wetness limitations.
17	Once field soil samples are retrieved the gleying and mottling intensity is compared to Figure 7 or Figure 8 of the MAFF 1988 guidelines to determine a Wetness Class of the subsoil and this data referenced to Table 16 or Table 17 of the MAFF 1988 guideline to determine the soil grade according to soil wetness of a particular soil texture and Field Capacity Days.	The Applicant assumes the reference is to Tables 6 & 7 rather than Tables 16 and 17.
18	Gleying and mottling of the subsoils have been detailed in the table named 'Land at Cleve Hill Farm: ALC and resources survey – Details of observations at each sampling point' within the Cleve Hill Solar Park SALUQ 2017 report and Wetness Class using Figure 7, followed by determining of the soil grade using Table 6.	No response required.
19	However, in the case of observation numbers 35, 37 and 54 these locations should be compared to Figure 8, as no gleying or mottling has been observed within the first 40cm. These three sample locations, comprising approximately 6 ha, were incorrectly graded in the Cleve Hill Solar Park SALUQ 2017 report, as the field observation should have been compared to Figure 8 of the MAFF 1988 guideline.	The Applicant is confident that these points are correctly assessed. These observation points have very deep topsoil (over 40 cm deep, rather than the typical 20-30 cm). This means soil colour evidence of waterlogging above 40 cm cannot be seen because it is removed by ploughing. In these circumstances the assumption has to be that this land would be waterlogged to the same depth as all the surrounding land. This is standard procedure.
20	The SALU report 2017 has apparently identified slow permeable layers within a depth of 18cm to 31cm. Independent to further assessment, it should be pointed out that the MAFF 1988 guidelines (compare Figure 7 and Figure 8) considers this of little relevance as these can be removed by conventional agricultural measures i.e. deep ploughing.	The Applicant notes that this does not affect the grading of the land according to wetness.
Interpretation of Appendix 3, Table 11, of MAFF 1998 guidelines		
21	It appears that the Cleve Hill Solar Park SALUQ 2017 report was over-reliant on Figure 7, to specify Wetness Class III for the majority of the clay and silty clay present at the site. However, the Cleve Hill Solar Park SALUQ 2017 report completely ignored the procedure and assessment criteria detailed in Table 11 within the MAFF 1988 guideline. There is no clear justification and/or additional data presented in the Cleve Hill Solar Park SALUQ 2017 report to justify this.	The Applicant notes that this is a fundamental misunderstanding of how Wetness Class is determined in the 1988 MAFF Guidelines (see response to comment 13a).
Duration of Water Logging		
22	Duration of waterlogging and observation of	No response required.

Ref.	Statement	Applicant's Comment
	wetness of the soil is a critical factor which influences classification of the Wetness Class of the topsoil significantly. As already pointed out above, the duration of waterlogging has to be either 31-90 days 'in most years' to qualify for Wetness Class II or to be waterlogged for 91-180 days 'in most years' to be ascribed to Wetness Class III.	
23	In this context it is critical to refer to the footnote presented in Table 11 of the MAFF 1988 guideline that 'in most years' is defined as more than 10 out of 20 years. No such evidence has been presented in the Cleve Hill Solar Park SALUQ 2017 report.	It would be very rare to have 20 years of dipwell data for a site with which to grade land. For that reason this is not the method used in ALC assessment (see pages 35 to 38 of the 1988 MAFF ALC Guidelines).
24	Further information is provided in the Soil Survey Handbook edited by J.M Hodgson, 1979, which is referenced on page 16, page 36 and page 51 within the MAFF 1988 guidelines.	No response required.
25	The approach of allocating soil profiles to a particular wetness class is described in more detail within the Soil Survey Handbook, 1979, in Appendix I, page 87 and page 88. Four basic assessment criteria are detailed mainly referring to quantitative data recorded over a suitable period of time. The method also refers to 'by interference from the morphology and water state of a particular profile at a particular time'. This means that one cannot rely on Wetness Class assignment of soils on a single survey undertaken at one specific time.	This is an incorrect interpretation of how Soils Wetness Class should be assessed in ALC survey (see responses to comments 4, 5 and 13a).
26	The field observations of the Cleve Hill Solar Park SALUQ 2017 report, were undertaken following an extremely wet February 2017, followed by persistent continuous rainfall in the first two weeks in March 2017. Thus, it can be stated that the Cleve Hill Solar Park SALUQ 2017 report was 'biased' in terms of selecting the wettest part of the year to achieve a predetermined outcome, and thus leading to assessing the land as Subgrade 3b based on Wetness Class.	See response to comments 4 & 5.
27	However, the Soil Survey Handbook, 1979, page 87 final paragraph, which forms part of the MAFF 1988 guideline, clearly states that 'in the case one relies on a single observation in time', that this assessment is speculative and very subjective. Additionally, in the same book, on page 88, first paragraph final sentence states that 'Profiles should not normally be allocated to Class II, III and IV using method (d), i.e. one observation at one time.	See response to comments 4 & 5.
28	I have presented in Appendix IV the relevant sections of the Soil Survey Handbook, 1979, J. M. Hodgson and obtained permission from the copyright holder who is Rothamsted Experimental Station to do so and presented statement in Appendix V.	No response required.

Ref.	Statement	Applicant's Comment
Local Weather monitoring station		
29	I have consulted metrological data monitored and recorded from a local weather station located in Seasalter and operated by Canterbury City. Unfortunately, I am still awaiting permission from Canterbury City to present the monthly monitoring data. However, the monthly data sets for the period September 2016 to March 2017 are easily accessible via the web-link.	See response to comment 5.
30	Examining the metrological data from September 2016 to March 2017, it can be stated that it is highly unlikely that soils at Cleve Hill Farm can have been wet for between 91-180 days and thus selecting Wetness Class III is not justified.	See response to comment 5.
31	Based on the local metrological data from September 2016 to March 2017 it is more likely that the duration of waterlogging of the soils at Cleve Hill Farm fall within the definition of Wetness Class II, as defined in Table 11 of MAFF guideline 1988.	See response to comments 5 and 13a.
Reassessment of ALC of proposed land		
32	As detailed in the footnote at Table 6, for naturally calcareous soils with more than 1% CaCO3 and between 18% and 50% clay in the top 25 cm, the grade could be increased to Grade 3a, considering a Wetness Class III. Laboratory analysis of three soil samples presented in the Cleve Hill Solar Park SALUQ 2017 report demonstrates that three soil samples were predominantly clay, and had CaCO3 concentrations ranging between 4.4% to 5.3%.	The average of these samples is over 50%, illustrating the statement in paragraph 3.8 of the 2017 report that these soils are heavy and difficult to work. This is in accordance with the MAFF 1988 ALC Guidelines (page 32).
33	Additionally field observations presented in the Cleve Hill Solar Park SALUQ 2017 report in the table named 'Land at Cleve Hill Farm: ALC and soil resource survey – Details of observations at each sampling point', detail that clay soils exhibited naturally calcareous soils with more than 1% CaCO3 within the clay top soils at locations 5, 11, 23, 34, 35, 36, 37, 38, 39, 49, 51, 52, 53, 54, 55, 65, 66, 68, 70, 71, 80, 82, 84, 85, 86, 95, 97, 98, 99, 100, 101,115, 122 and 160. These sample locations were incorrectly classified in the Cleve Hill Solar Park SALUQ 2017 report as a Subgrade 3b instead of a Subgrade 3a, as detailed in Table. In fact, considering the local metrological data it can be equally concluded that if these locations are considered Wetness Class II, these locations have to be graded as Grade 2 (very good agricultural soils).	See response to comment 32.
34	Furthermore, In the case of the observation point descriptions presented in the Cleve Hill Solar Park SALUQ 2017 report, and based on the local metrological data detailed above, the following additional observation points have been re-assessed considering a Wetness Class	See response to comments 4 & 5.

Ref.	Statement	Applicant's Comment
	II, that the clay soils in case of 12, 20,30, 46, 62, 73, 74, 78, 90, 91, 94, 103, 106, 107, 109, 110, 111, 112, 113, 114, 116, 119, 120, 121, 161, 162, 163, 165, 167, 170, 171, 173, 176, 177, 180, 184 and 185 are identified as Subgrade 3a soil based on the Field Capacity Days and soil texture of the top 25cm.	
35	Additionally, the silty soils (abbreviated as SC) at observation locations 3, 4, 6, 9a, 10, 13, 14, 17, 20, 21, 22, 24, 28, 29, 31, 33, 40, 41, 42, 43, 44, 45, 47, 48, 57, 58, 60, 61, 63, 64, 72, 75, 76, 77, 79, 88, 89, 92, 93, 104, 105, 117, 118, 158, 159, 164, 166, 168, 169, 172, 174, 175, 179 and 108, can be classified as Subgrade 3a using the same approach detailed above.	Silty clay soils are abbreviated in the report logs as ZC not SC. See response to comments 4 & 5.
36	Based on the description that each field observation is based on an intersect of 100m grid, which gives a sampling density of one observation per two hectares, the equivalent land comprising clay soils is equivalent to 68 hectares of land classified as Grade 2 agricultural land, that clay soils of 74 ha can be graded as Subgrade 3a and the silty soils identified at the site can be graded as Subgrade 3a.	The Applicant disagrees with this assessment for the reasons set out above.
37	Thus, there are about 250 hectares, which is about 65% of additional land, which can be classified at Grade 2 or Subgrade 3a, which is defined in the MAFF 1988 guidelines as very good to good agricultural soils. Because the Cleve Hill Solar Park SALUQ 2017 report does not contain all description of all observation points, the remaining soils can currently not be classified.	
Moisture Balance		
38	Another approach to classification of agricultural land (completely neglected in the Cleve Hill Solar Park SALUQ 2017 report is to grade the land assessing the Moisture Balance (MB) for wheat and potato (as described on page 26 of the MAFF 1988 guideline), which are calculated using the formulae: MB (Wheat) = AP (Wheat) – MD (Wheat) MB (Potatoes) = AP (Potatoes) – MD (Potatoes)	The Applicant confirms that this land is overwhelmingly limited by wetness. The droughtiness calculations referred to do not affect the grading.
39	The calculation of the crop-adjusted soil available water capacity (AP) for wheat and potatoes is further detailed in Appendix 4 of the MAFF 1988 guideline. The calculation of the AP value is further detailed on page 41, which considers the total available water in the topsoil, subsoil, easily available water in the subsoil layers and based on field observations. This assessment relies that field observations of subsoil layers to a depth of 120cm have been made, as roots of wheat generally grow to a depth of 120cm and potatoes to a depth of 70cm. The subsoil layers are further calculated referring to Table	See response to comment 38.

Ref.	Statement	Applicant's Comment
	14 of the MAFF 1988 guidelines. The MD values for the location are obtained from LandIS, and I have presented in Appendix VI an electronic copy of this information, which is freely available on the internet.	
40	The field observations of the gleyed and mottled subsoil layers are used to complete the calculation of the AP values.	See response to comment 38.
41	Unfortunately, the Cleve Hill Solar Park SALUQ 2017 report, provides only a limited number of observation points and descriptions as only a limited number of observation soil cores have been advanced to a depth of 120cm.	See response to comment 38.
42	However, the best example of soil observation and description of the profile is in the case of observation point 136 as detailed in the main report page 3, section 2.4 (albeit it should be pointed out that this observation point was not presented within the Cleve Hill Solar Park SALUQ 2017 report.	See response to comment 38.
43	Overall, the moisture balance limits (in mm) for Wheat was calculated to be -3mm and that for potatoes to be -11mm. Based on grading agricultural land in accordance with MAFF 1988 guidelines, in the example of field observation 136, and compared to Table 8 of the MAFF 1988 guidelines these soils are Subgrade 3a.	See response to comment 38.
44	Based on the limited information provided in the Cleve Hill Solar Park SALUQ 2017 report and assessment of the land in relation to Moisture Balance it can be stated that the land is a Subgrade 3a following procedures set out in the MAFF 1988 guideline. Further field observations to a specified depth of 120cm would assist in determining more robustly this aspect of the land grading.	See response to comment 38.
45	I am currently assessing additional observation points to calculate land grading in accordance with droughtiness assessment and submit these calculations in a separate statement.	See response to comment 38.
46	However, based on limited information detailed in the Cleve Hill Solar Park SALUQ 2017 report, the location detailed on page 3, paragraph 2.4 of this report, clearly demonstrate that these soils are a Subgrade 3a for this higher level assessment criteria.	The Applicant disagrees with this statement, as soil wetness is the most limiting factor and limits the majority of the land to subgrade 3b.
Gradient of Land		
47	Paragraph 3.9 of the Cleve Hill Solar Park SALUQ 2017 report details that 'in small areas in the south east around Cleve Hill, the land slopes at between 7 and 11 degrees' and that 'gradient is therefore an equally limiting factor on this land'. However, this statement is not corroborated with any data. Based on data presented in Appendix of the Cleve Hill Solar Park SALUQ 2017 report, details of observations at each sampling point, detailing 186 observation points, the steepest slopes	The Applicant advises that these measurements were made with a sighting clinometer on areas of steep slopes, and do not incorporate any soil observation points. This is standard ALC survey procedure. All of this small area of land is equally limited to subgrade 3b by wetness.

Ref.	Statement	Applicant's Comment
	reported were 6° at sample location 164, 5° at location 174 and 4° at location 180.	
48	The MAFF ALC guide clearly details that slopes up to 7° are considered grade 1, 2 and 3a. Only gradients of 11° are considered Grade/Subgrade 3b.	See response to comment 47.
49	Thus the report does not substantiate and justify the statement made in paragraph 3.9. This is particularly misleading considering that the data presented in the SALU report details that the surveyed land is either flat or has slight undulations for about 99.22% of the area and 0.78% of the land has gradients which are still classified at Grade 1 or Grade 2 or Subgrade 3a.	See response to comment 47.
Current crop April 2019 at Cleve Hill Farm		
50	Field observations made in April 2019 showed that broad beans (Viviafaba) are currently grown on the proposed development land. The plants in April 2019 were approximately 0.8m tall, showed evidence of on-setting flowering and exhibited strong growth. For the broad bean plants to be so tall indicates that these were planted in either October/November 2018.	As per the 1988 MAFF ALC guidelines, the appearance or yield of crops in individual seasons is not used as the basis of grading land in the ALC system, as this can be misleading as to the long-term potential of the land.
51	However, based on statements detailed in the Cleve Hill Solar Park SALUQ 2017 report, paragraph 3.7 and paragraph 3.8. I have presented photographs of the broad bean crop grown on the Cleve Hill Farm land in April 2019 in Appendix VIII.	
52	Additionally, I also show a photograph of a field growing broad bean near Sittingbourne, Kent, May 2019. As shown in the photograph, the broad beans at the Sittingbourne field exhibit poor and stunted growth.	See response to comment 51.
53	This observation also reiterates that the soils at Cleve Hill Farm are good quality agricultural land.	See response to comment 51.
Summary and Conclusions		
54	Overall, re-assessment of the Cleve Hill Solar Park SALU 2017 report prepared for Cleve Hill Solar Park development to assess agricultural land quality I conclude the following: • The field survey is 'biased' in relation to being undertaken at the time of year following an extremely wet February 2017 followed by two weeks of rainfall during the duration of the field survey at the beginning of March 2017; • Incomplete data has been presented in the report; • Some assessment criteria to determine Wetness Class for two observation locations have been incorrectly interpreted; • No quantitative data has been presented in the report demonstrating that the soils at the site are water logged for the	The land at the Site has been graded in accordance with the MAFF 1988 ALC Guidelines by three experienced ALC surveyors. The land has heavy clay soils with impeded drainage and the resultant wetness dominantly limits land to subgrade 3b. Other published ALC surveys have been undertaken on the same soils and geology within 5 km of the site by MAFF surveyors during the 1990s: one, of land over alluvial clays immediately to the west of the site at Ham Marshes (Natural England reference R095\98) found 98% of the land to have clay soils limited by wetness to grade 4; two on London Clay at Waterham to the east (Natural England reference, R040\90 & R142/96) found 100% of the land to have clay soils limited by wetness to subgrade 3b. These results support the findings of the 2017 survey.

Ref.	Statement	Applicant's Comment
	duration of more than 91-180 days 'for most years' i.e Wetness Class III; • The Soil Survey Handbook 1979, which forms part of the MAFF 1988 guidelines details that single observations at one particular time are speculative and very subjective and also details that soil profiles should not normally be allocated to Class II, III and IV using a single survey at one particular time. • • The gradient of land was identified in the Cleve Hill Solar Park SALUQ 2017 report as a limiting factor, but no actual data was presented to corroborate this statement, and in fact the only on-site data presented in the Cleve Hill Solar Park SALUQ 2017 report and compared to MAFF 1998 guideline indicates that land with slopes less than 7° are considered Grade 1, Grade 2 or Subgrade 3a land.	
55	Re-evaluation of the Wetness Class across the site, based on actual and local metrological data and considering that a large part of the land has naturally calcareous soils, it is my opinion that over 75% of the land at Cleve Hill Farm can be graded as Grade 2 (very good agricultural land) and Subgrade 3a (good agricultural land) in accordance with MAFF 1988 guidelines.	See response to comments 4, 5 and 54.
56	As such, the proposed land should not be considered suitable for the Cleve Hill Solar Park development, and the land should be retained as good and valuable agricultural land and secure food production for future generations.	The Applicant is content that the ALC of the Development site has been correctly classified.
Recommendations		
57	The following recommendations are made to the Planning Inspectorate: - Temporarily cease any further assessment in relation to the planning application for the Cleve Hill Solar Park and verify actual ALC status of the proposed land. In the case that the proposed land is mainly Grade 2 and Subgrade 3a, the land should not be considered for any further development. - Undertake additional soil ALC surveys of the land by independent and ALC experienced consultants at a more appropriate time of the year including April/May and September/October; - Seek quotative data as detailed in the MAFF 1988 guideline and Soil Survey Handbook, 1979, to establish long-term quantitative data on the actual duration of the water logging of the land at Cleve Hill Farm to satisfy the statement of 'in most years', as more than 10 out of 20 years.	See response to comments 4, 5 and 54.

Ref.	Statement	Applicant's Comment
	- The proposed recommendations and further assessments should be validated by independent and ALC experienced consultants.	

Table 3.2b: The Applicant's Comments on Dr Bruno Erasin's Written Summary of Oral Submission from OFH1 [REP3-058]

Ref.	Statement	Applicant's Comment
1	I detailed that in my professional capacity that I have undertaken several Agricultural Land Classifications for solar power installations. Whilst reviewing the ALC presented by Cleve Hill Solar Park it appeared that it followed the guidelines detailed in the MAFF 1988 guidelines.	The Applicant has responded to the detailed submission in Table 3.2a. The Applicant is content that the ALC of the Development site has been correctly classified.
2	However, by a more detailed assessment of the field observation presented in the same report, I noted that the ALC report did in fact not follow the MAFF 1988 guidelines. I also stated that the field survey was 'biased' in relation to being undertaken at the time of year following an extremely wet February 2017 followed by two weeks of rainfall during the duration of the field survey at the beginning of March 2017.	
3	I also mentioned that the report was incomplete and had missing data and that some assessment criteria to determine Wetness Class for two observation locations have been incorrectly interpreted.	
4	I detailed that a large number of observation points have been entirely incorrectly interpreted in accordance with MAFF 1988 guidelines based on the presence of calcium carbonate in the soils. As each field survey sampling point was equivalent to about 2 ha of land, a considerable percentage of land could be reclassified as Grade 3a based on this fact alone.	
5	I detailed that no quantitative data (as defined by the MAFF 1988 guidelines) has been presented in the report demonstrating that the soils at the site are water logged for the duration of more than 91-180 days.	
6	I made reference to a local metrological monitoring station in close proximity to Cleve Hill Farm. I stated that I re-evaluated the Wetness Class across the site, based on actual and local metrological data and considering that a large part of the land has naturally calcareous soils, it was my opinion that over 75% of the land at Cleve Hill Farm can be graded as Grade 2 (very good agricultural land) and Subgrade 3a (good agricultural land) in accordance with MAFF 1988 guidelines.	
7	In my closing remark I stated that the proposed land should not have been considered for the Cleve Hill Solar Park	

Ref.	Statement	Applicant's Comment
	development from an early stage, as land classified as Grade 3a or Grade 2, in accordance to current planning conditions, are not acceptable for such a development.	

3.3 REP3-059 Dr Bruno Erasin (Environmental Risks from the Battery Storage System)

Table 3.3: The Applicant's Comments on Dr Bruno Erasin's Written Representation

Ref.	Statement	Applicant's Comment
Cleve Hill Solar Park Development – Human Health and Environmental Risks – Objections – Summary of Oral presentation on Monday 22nd July 2019		
1	I briefly referred to my previous objection submitted in relation to incorrect Agricultural Land Classification submitted by Cleve Hill Solar Park. However, over the course of the open meetings and issue specific meetings it became apparent to me that there may be a potential significant risk to human health due to the battery storage systems proposed for the development. I stated that very little or no concrete information has been provided to date by Cleve Hill Solar Park in their planning application.	The Applicant's Deadline 4 submission includes an Air Quality Impact Assessment (AQIA) of a Battery Fire (document reference 12.5.7) which specifically addresses the points raised in relation to air quality impacts in this submission. The AQIA refers to a more detailed version of this submission, including model outputs, which is appended to that report (Appendix A). The Applicant's AQIA demonstrates that Dr Erasin's submission is flawed, as it is based on incorrect evidence and assumptions.
2	I referred to technical studies which have demonstrated the release of toxic and harmful hydrogen fluoride gas from lithium batteries in the event of fire at high concentrations and the same technical study provided quantitative data of hydrogen fluoride release from a given unit of lithium batteries.	
3	This data was extrapolated to a larger scale battery storage system and used a value of a 10,000kWh battery storage system. This value was based on additional research conducted, as very little or no information was provided in the planning application.	
4	I explained that I had to derive a domestic exposure limit for hydrogen fluoride as there are currently no domestic exposure limits for hydrogen fluoride in the UK. I used the HSE work exposure limit, which is 1.8ppm, which is divided by a safety factor of 100, which was in accordance with Environment Agency procedures in such events. An exposure limit of 0.018ppm for domestic properties was derived.	
5	I further explained that I used a dispersion model developed by the US Environment Protection Agency. This model was developed for fire fighters to estimate potential exposure during a case of large scale fires. The assumption was made that there is a moderate breeze prevalent and various scenarios run considering a 10,000kWh battery storage unit.	
6	I explained that expected hydrogen fluoride concentrations exceed derived domestic exposure limits by a factor of 2,444 at a distance of 4.5km, a factor of 1,333 at a	

Ref.	Statement	Applicant's Comment
	distance of 7.8km and a factor of 55 at a distance of 10km.	
7	In my closing remark I stated that there is a foreseeable and significant human health risk in an event of fire of the proposed battery storage systems at the Cleve Hill Solar Park, endangering the population at Seasalter, Graveney, Faversham and Whitstable and have recommended that any such battery storage system should be at least 15km from any population.	
Environmental Risk		
8	I also intended to present further information about the potential environmental risks from the battery storage system, which I have detailed in my written submission. However, having had to explain a complex scenario and conceptual model in relation to human health risk I unfortunately ran out of time to give a oral presentation about environmental risks. The environmental risks from the battery storage systems are summarised below:	The Applicant notes this comment.
9	Significant concentrations of copper and nickel, among other heavy metals, have been determined in the metallic leachates from various types of lithium batteries according to various standard leachate procedures. Copper concentrations ranged between 54,100 mg/kg to 278,000mg/kg of battery material. Based on a 100,000kg battery storage system there is a potential to release 6,670kg of copper in a catastrophic event. The volume of water in a catastrophic flooding event of 0.5m of the entire area is estimated to be approximately 1,750,000m3. The calculated potential concentrations of copper in the water would be approximately 3.81mg/L. Based on an Environmental Quality Standard of 0.001 mg/L for copper, the estimated concentration from a pollution event from the battery storage area would exceed by a factor of 3,810.	This comment appears to refer to a catastrophic flood event inundating the electrical compound to a flood depth of 0.5 m. It is not clear what the assumptions are that have informed the calculations in this response. The electrical compound is protected by a flood protection bund that is designed (on the basis of flood modelling undertaken by JBA Consulting (who has undertaken flood modelling for the Environment Agency in this area) in Appendix 1 of the Flood Risk Assessment [APP-227] to protect the infrastructure within the compound from a 1 in 1000 year flood event in 2070 (i.e. accounting for sea level rise), in the event of a catastrophic failure of the existing coastal flood defences. The Applicant is seeking powers in the DCO to maintain the existing coastal defences and therefore maintain the level of protection that they afford the Development site. The Applicant therefore does not consider it necessary to seek to address the detail of this submission as it refers to hypothetical, unevidenced parameters for a flood event that the Applicant has designed the Development to withstand.
10	If I may add, I would like to request an issue specific hearing in September 2019 in relation to the potential significant human health and environmental risk of the battery storage systems for the Cleve Hill Solar Park in order to discuss and explore this aspect in more detail.	These comments are noted.

3.4 REP3-081 Matthew Hatchwell (Ecosystem Services, Managed Realignment and European Eel)

Table 3.4: The Applicant's Comments on Matthew Hatchwell's Written Representation

Ref.	Statement	Applicant's Comment

Ref.	Statement	Applicant's Comment
Ecosystem Services and Managed Realignment		
1	I wish to raise the matter of the Environment Agency's long-term plan for managed realignment (MR) at the Cleve Hill site, the ecosystem service benefits that are delivered by tidal marshes, and the economic value to society of those benefits as an alternative land use to agriculture or the proposed solar power station.	The Applicant has responded to SBC's submission on biodiversity net gain at section 2.5 which addresses wider environmental net gain, in relation to which ecosystem services are a consideration.
2	The context for my comments is the Environment Agency's original plan for the marshes at the Cleve Hill site which involved allowing the land to revert to tidal marsh, via a managed realignment (MR) process, within the Epoch 1 (2019-39) timeframe. I question the EA's readiness to change that plan as a response to the CHSPL proposal, bringing forward MR at Chetney Marsh and deferring it at Nagden Marsh until Epoch 2 (2039-69).	The EA published it's draft MEASS in November 2017. This included a policy of hold the line until year 20 (2038) then managed realignment from year 20. The Applicant understands that the MEASS has received sign off from DEFRA and is likely to be published by 30 September 2019.
3	Ecosystem services are the benefits that humans derive, directly or indirectly, from ecosystem functions. In the case of tidal marshes, those services include carbon storage1, erosion control, nutrient cycling, waste treatment, wildlife habitat provision, cultural values, and recreation. The environmental economist Robert Costanza, in a peer-reviewed publication in 2014, estimated that the economic value of those ecosystem services provided by tidal marshes generally is just under US$194,000 per hectare per year. In the case of Nagden Marsh, with a potential area after MR estimated by the EA at 200 hectares, that amounts to a total value to society of $38.8m every year if MR goes ahead. Tidal marshes are the second most valuable ecosystem in the world after coral reefs. It makes no sense economically to install a solar power station as an alternative to respecting the Environment Agency's original plan and allowing that Grade 3 agricultural land to revert to tidal marsh within the next 20 years.	The Applicant has responded to SBC's submission on biodiversity net gain at section 2.5 which addresses wider environmental net gain, in relation to which ecosystem services are a consideration. The Applicant notes that the Costanza 2014 cites another paper, The Value of Coastal Wetlands for Hurricane Protection, Costanza 2008, which sets out the benefit of coastal wetlands in reducing the cost of flood damage during hurricanes in the United States of America. This highlights that it is potentially misleading to use international estimates of ecosystem service values to support site specific evaluation in the UK, given the very different weather systems and ecosystems that exist in different areas. The EA published it's draft MEASS in November 2017. This included a policy of hold the line until year 20 (2038) then managed realignment from year 20. The Applicant understands that the MEASS has received sign off from DEFRA and is likely to be published in the next few weeks.
4	I also wish to request more information on the EA's plan to bring forward MR at Chetney Marsh as an earlier alternative to MR at Nagden Marsh and specifically to ask a) about the relative costs between the two sites and b) how certain the EA is about the feasibility of MR at Chetney Marsh within the Epoch 1 (2019-39) timeframe. There is Nationally Significant Infrastructure located within the Chetney Marsh site that it may be very costly to replace or circumvent for the purposes of MR, and I wish to ask whether the Environment Agency has taken that into consideration in its willingness to delay MR at Nagden Marsh.	The Applicant understands that the MEASS has received sign off from DEFRA and is likely to be published in the next few weeks. There is also existing nationally significant infrastructure located at the Cleve Hill site. The consultation draft of the MEASS stated for the Cleve Hill site: *"There are potential risks associated with the interaction with the electricity pylons and overhead lines for the MR site and this will need careful consideration during the design stage."*
European Eel		
5	I want to flag the presence of the European eel (Anguilla anguilla) at the Cleve Hill site,	Consideration of eel and elver passage has been incorporated into the Outline LBMP (Deadline 4 document reference

Ref.	Statement	Applicant's Comment
	which is a Critically Endangered species according to the Red List of the International Union for the Conservation of Nature (IUCN)4 . According to IUCN, the number of eels reaching Europe – where they were once ubiquitous in coastal zones and deeply engrained in the popular culture of the Thames estuary in particular – has declined by as much as 98% since the 1970s. Everything possible must be done to safeguard existing European eel populations on Nagden Marshes, in particular protecting the drainage channels and freshwater courses within the site where eels grow to adulthood and ensuring that the outfalls from the marshes onto Faversham Creek and the Swale comply with the latest EU and UK legal requirements to facilitate the inward and outward passage of elvers and eels. Anguilla anguilla is a UK Biodiversity Action Plan Priority Species, is on the list of threatened and/or declining species and habitats under the OSPAR Convention, and is a species of principal importance for the purpose of biodiversity conservation under the Natural Environment and Rural Communities Act 2006	6.2.5.2, Revision C). For example, the use of box culverts will ensure ongoing passage remains viable. Improved water quality and higher water levels as a result of the Development will benefit European eel.

3.5 REP3-083 Penelope Geoghegan

Table 3.5: The Applicant's Comments on Penelope Geoghegan's Written Representation

Ref.	Statement	Applicant's Comment
1	Good afternoon Hefin. We spoke at the meeting in Faversham on 16th July and I said I would send on my thoughts as expressed at the meeting. Well I will reiterate what a travesty of a plan it is; the size, the situation, the sheer UGLINESS, the devastation it will cause to unique marshland and the surrounding RURAL area, the displacement of wildlife to say nothing of the chaos it will cause to very narrow meandering country roads and the people living there. What I cannot understand is how solar panels manufacturers et al are not working directly in conjunction with the developers - it should be LAW. But far too simple for money makers to comprehend I assume. For example - we have 4/5 large developments on all corners of Faversham - NOT ONE SINGLE SOLAR PANEL. We have had to swallow our dislike of so many new houses all at once causing the sort of chaos and disruption I have already referred to and yet we are also expected to agree to this MONSTROUS area of black in a very beautiful area. As I mentioned at the meeting this whole situation is IMMORAL. And NO NO NO to the solar panel - NOT farm - NOT park - highly INDUSTRIAL Blot. Yours Penelope Geoghegan Mrs.	**Scale** The scale of the project responds to a need for greater renewable energy production as set out in the Statement of Need submitted with the Application [APP-253] and its addendum [AS-008]. **Location and Alternatives (on housing)** A description of the site selection process (section 4.2), and an analysis of alternatives including solar PV on housing (section 4.4.4) is provided in Chapter 4 - Site Selection, Development Design and Consideration of Alternatives of the ES [APP-034]. These aspects are also addressed in the Statement of Need submitted with the Application [APP-253] and its addendum [AS-008]. **Wildlife and marshland impacts** The effects of the Development on habitats, birds and other wildlife are assessed in Chapter 8 – Ecology [APP-038] and Chapter 9 – Ornithology [APP-039]. **Construction traffic impacts** Access and traffic impacts are assessed in Chapter 14 - Access and Traffic of the ES [APP-044]. Measures proposed to manage construction traffic are described within the outline CTMP, Technical Appendix A14.1 of the ES (Deadline 4 submission document reference 6.4.14.1, Revision C). The outline CTMP has been produced as a 'live' document which will continue to be updated on an ongoing basis through consultation with stakeholders during examination of the Application. This will then form the basis of a final CTMP to be approved by the relevant local planning authority before construction can commence. **Visual impact** Landscape and visual impacts are assessed in Chapter 7 - LVIA of the ES [APP-037]. Section 7.5.2 assesses landscape effects during operation, and section 7.6.2 assesses visual amenity effects. The assessment is supported by figures [APP-054] and visualisations [APP-063 to APP-196].

3.6 REP3-085 Stephen Ledger

Table 3.6: The Applicant's Comments on Stephen Ledger's Written Representation

Ref.	Statement	Applicant's Comment
Summary		
1	This type of development is covered in NPS EN-1 and specifically gives guidance on SSSI's in para 5.3.11. The site only meets the	Chapter 4 - Site Selection, Development Design and Consideration of Alternatives of the ES [APP-034] addresses the need for distributed small-scale solar PV development at

Ref.	Statement	Applicant's Comment
	electricity need for 91,000 homes. It works against the initiative to generate electricity using solar panels on homes. Although plans to mitigate the adverse impacts have been made there are many uncertainties and clearly construction noise will be very disturbing. There is significant doubt regarding the planned managed retreat. If managed retreat is to be implemented the need for power is not sustainable in the long term. If built, then realistically, the solar farm and any potential successor is likely to be long term with managed retreat never being delivered	section 4.4.4.3, which is not in conflict with the Development, both are needed. Construction noise is assessed in Chapter 12 - Noise and Vibration of the ES [APP-042] at section 12.5.1. Where significant effects have been identified (for ecological receptors), mitigation is proposed to reduce the level of impact to not significant in terms of the EIA Regulations. The Applicant has agreed the wording of Requirement 16 of the dDCO (Deadline 4 submission document reference 3.1, Revision D) with the Environment Agency to ensure that if managed realignment can be delivered before 2069, the solar park would not prevent MR from taking place.
	Policy	
2	The detail in para 5.3.11 talks in terms of developments within or outside a SSSI having an adverse effect. Some of the adverse impacts in this case are:- · at best a delay to managed retreat, so not linking up this area with the wider area of the North Kent Marshes and Greater Thames Estuary · visual impact and noise which would be totally out of character with the area In these circumstances it states that development consent should not normally be granted. However, it does state that an exception should only be made where benefits (including need) clearly outweigh the impacts.	The Applicant has agreed the wording of Requirement 16 of the dDCO (Deadline 4 submission document reference 3.1, Revision D) with the Environment Agency to ensure that if managed realignment can be delivered before 2069, the solar park would not prevent MR from taking place. Landscape and visual impacts are assessed in Chapter 7 - LVIA of the ES [APP-037]. Noise impacts are assessed in Chapter 12 - Noise and Vibration of the ES [APP-042]. The Applicant submitted a Written Representation on Policy and Procedure at Deadline 2 [REP2-026] which sets out the role of national policy statements at section 2.3.
	Need	
	From a need point of view it was interesting to hear the technical expert, Dr Ralitsa from GREAT, mention that solar at the household level is a better solution than "Large scale" solar. In June this year the government also stated that "The future of energy is Local". "Local" solar avoids "grid blocking". This would preserve the connectivity capacity at Cleve Hill for additional wind farm generation or imported power. These types of supply better enable the need for power to be met when required. As Cleve Hill Solar Park would not generate power at the time of most need battery storage is required but, it not certain that this would be constructed. It was not appropriate to delve into the detail at the ISH1 of what "Local" generation could achieve so I have included my findings in an appendix. In principle each house can generate enough power for its own use. If we plan to build 240,000 homes each year then:- · every year they can generate more than double that which Cleve Hill Solar Park could generate · every year we would add the equivalent of more than 2 Cleve Hill Solar Parks to the UK's capacity · the generation can come to market quickly · it would avoid "grid blocking" Perhaps more importantly,	The Applicant submitted a response to the evidence provided by Dr Ralitsa Hiteva shortly after Deadline 3 [AS-037] which addresses these points.

Ref.	Statement	Applicant's Comment
	Cleve Hill Solar Park would be generating electricity at the same time of the day as "Local" generation and hence be in competition with "Local". We need to support the larger contribution to our need for electricity via the "Local" generation initiative rather than building a "large scale" solar park. The UK has the most wind resource in Europe. We should reserve the capacity at Cleve Hill to take full advantage of wind power as that technology develops.	
	Environmental	
	Clearly there is some way to go to be able to decide on the environmental position. There seem to be a huge mismatch between managing the west and east boarders to Oare Nature Reserve. The marshes I farm form the west boarder of Oare Nature Reserve. I am restricted from grazing some marshes in the winter months. This is to prevent disturbing overwintering birds. At ISH4 the applicant spoke in terms of starting work in "winter 1" This would be the worst time. There is a huge need to mitigate various adverse effects to an acceptable level whereas perhaps sufficient mitigation on such a site can never be achieved I would like to comment on the mitigation measure of grazing sheep once this has been finalised. Essentially the nutritional values of the grass underneath the east/west solar panels will need to be sufficient for sheep to thrive. I am aware that research has been undertaken that suggests the nutritional value of grass under solar panels can be higher than grass which is not. The indicative Solar PV array design picture shown in the non technical ES indicates that a substantial area will be completely covered by panels without the more usual open arrangement of a north/south alignment. I can't find any research that has been carried out for the proposed configuration of solar panels. However, at a practical level I can't see how grass will thrive under the proposed arrangement. A key factor to this mitigation measure may be how much of the solar panel area will support grass on which sheep will thrive. Is it possible to establish this figure? At ISH4 we heard that the habitat reversion area would be fenced off to preserve the food for birds This further reduces and fragments the area available for grazing. If I was to graze my own sheep on this area I would need to know how many acres would be available and at which times of the year they could be grazed. I would also need to understand the layout of the available grazing as if too fragmented it would make the husbandry of the sheep more time consuming and possibly uncommercial to graze.	It is not yet known the exact time of year that construction will start, however the Applicant has provided for alternative start dates in section 16 of the Outline LBMP (Deadline 4 submission document reference 6.4.5.2, Revision C) in order to ensure that the mitigation proposed is in place prior to the first winter during construction. Section 6.9.4 of the Outline LBMP states that stocking densities within the solar arrays will be in the region of 4 sheep per hectare. The Applicant provided a Microclimate and Vegetation Desk Study as part of the Application submission [APP-204] which provides evidence in relation to vegetation responses beneath the solar panels. Whilst levels are clearly expected to be reduced directly beneath the array tables, there will be a gradiential response and vegetation is expected to be maintained beneath the solar panels. The Applicant notes that the management of land within a solar park is subject to different drivers and commercial considerations from agricultural farming of the land. Whilst the continued agricultural use of the land for sheep is helpful, it is not the primary use of the land when a solar park is in place.

3.7 AS-038 Dr Tim Ingram

Table 3.7: The Applicant's Comments on Dr Tim Ingram's Written Representation

Ref.	Statement	Applicant's Comment
1	The two most serious challenges facing humanity are Climate Change and Loss of Biodiversity: indeed these define the epoch of the Anthropocene, and have led the Cambridge academic and writer Robert Macfarlane (https://emergencemagazine.org/story/speaking-the-anthropocene/?fbclid=IwAR0hvZcOozGhpA2BJNqi85O-y814cW3CTLYCk0QEvNJAFEK3sEqyMDjgcwk) to emphasise how words and the way they are used with precision has great significance in any discussion. 'And that good naming might be political, it might be the refusal to describe the natural world as "the environment," which I don't do any longer. I find that to be a problematically chilly and alienating term. I tend to use the phrase "living world" or "natural world," and not to talk about "climate change" but to talk about "climate breakdown." These are small acts of renaming, which have considerable political encodings and consequences.'	The Applicant is in agreement with these comments. The Development is designed to address the causes of climate change through decarbonisation of the UK electricity supply. The Development has been subject to the latest version of DEFRA's biodiversity metric calculator and found to offer biodiversity net gain relative to the arable baseline (Deadline 4 submission document reference 12.5.8). The Applicant therefore considers that the Development directly addresses the two most serious challenges facing humanity referenced in this response.
2	Inevitably these two things are intimately connected and function equally on both Global and Local scales and need to be addressed at both of these levels. They raise conflicting perceptions of exploitation versus protection and restoration of the environment, which run throughout human history (https://www.environmentalscience.org/conservation) and become evident in perspectives on this particular application at Cleve Hill.	
3	The overwhelming evidence for human-induced Climate Change coupled with the pressures and demands humanity places on the environment and resources has led to over 100 UK Councils and Government declaring a Climate Emergency, and accelerating actions to curb emissions of Carbon Dioxide with the target to become Carbon-neutral by 2050. These initiatives inevitably impinge on our individual ways of life and 'free will' and imply radical changes necessary across our whole culture and outlook that go beyond any arbitrary limits set in time. Generation of energy by renewable means clearly is a vital part of this, but as David Mackay says in 'Sustainable Energy - without hot air' (https://www.withouthotair.com/c27/page_213.shtml): 	
4	The case for generating Solar derived energy is a strong one but not at the expense of wider viewpoints and nor at the expense of places that have very significant present and	The Applicant submitted a written representation on carbon dioxide offset and sequestration at Deadline 3 [REP3-025] which concludes that the Development would make a greater contribution to decarbonisation to address the causes of

Ref.	Statement	Applicant's Comment
	potential ecological and environmental value long into the future. 1 Efficient and effective ways of capturing Carbon into the landscape is a vital component in this vision, globally, nationally and locally. This, after all, is the very history of life on earth; specifically the evolution of photosynthesis and the rise of plants. A study by the Royal Society (https://royalsociety.org/-/media/Royal_Society_Content/policy/publications/ 2001/9996.pdf?fbclid=IwAR2VSrCiZ0lAAt7ncV2uMwdti7t-9d5NWrFMvwIMP56wRmw4UxhrsiI1viI) concludes that Carbon sequestration into the landscape is a highly significant part of the 2050 targets:	climate change than the MEASS managed realignment proposals on the Cleve Hill site.
5	Wetlands and saltmarsh are amongst the natural ecologies with the potential for most significant and efficient sequestering of Carbon over protracted time-scales because of the ways vegetation accumulates and degrades under conditions of regular and persistant inundation. As a corollary such areas can also raise land levels as a consequence, in concert with sea level change, and act to absorb tidal surges and provide significant protection of vulnerable places from flooding. In a recent address on UK Climate Change (https://www.gov.uk/government/speeches/michael-gove-speech-on-uk-climate-changeprojections) the then Secretary of State for the environment, Michael Gove MP, makes specific reference to 'natural flood defences', citing the example of Medmerry in in West Sussex where the Environment Agency has realigned the coast	
6	In the specific context of Faversham and the North Kent Marshes coastal squeeze caused by historic reclamation of intertidal habitat increases the vulnerability of the town to serious flooding, likely to be exacerbated by future sea level rise and increased climatic extremes resulting from Climate Change. And this coincides with accelerating pressures of development elsewhere that exploit the surrounding landscape of the town in unprecedented ways. These pressures, and the Solar proposal at Cleve Hill, can be as much a part of the problems we face as they are potential solutions:	
7	The risks of flooding into Faversham and the surrounding region are very real and increasingly unpredictable (the National Flood Risk assessments for Faversham and the surrounding area are mapped here: https://www.kent.gov.uk/__data/assets/pdf_file/ 0010/71668/Flood-risk-to-communities-in-Swale.pdf), and could undoubtedly be prevented or ameliorated by appropriate realignment of the sea walls and generation	The long-term management of the coast in this location is the subject of the MEASS, which is awaiting final publication by the Environment Agency. The Applicant has engaged with the EA in detailed discussion since September 2017 including responding to the EA's consultation on the MEASS. As a result, the Applicant and the EA have taken each other's positions into account. The MEASS is expected to include solutions under either scenario of the Development going ahead or not, and the Applicant is

Ref.	Statement	Applicant's Comment
	of new saltmarsh within shorter time scales rather than longer, along with the added and highly significant benefits both of capturing and sequestering Carbon efficiently and effectively over the long term and satisfying Habitat Directives in a place directly adjacent to already Internationally recognised sites of distinct ecological importance. The pictures below, taken at a particularly high tide in June 2017, but in otherwise equable climatic conditions, show how close sea level reaches under such circumstances to the footpath on the sea wall alongside Oare Creek.	working to ensure that the draft DCO for the project allows for managed realignment to take place on the site if the EA are able to demonstrate that it can be delivered in Epoch 2 (2039 to 2069). To this end, the draft DCO submitted at Deadline 3 [REP3-003] included an updated Requirement 16 which required the Development to be decommissioned following 40 years of operation if the EA can demonstrate that managed realignment can be delivered. That draft Requirement has since been further revised and agreed between the Applicant, the EA and SBC, and was submitted to the Planning Inspectorate on 22 August 2019 [AS-039].
8	The third picture shows that the land to the left of the sea wall is significantly lower than the water level in Oare Creek and a tidal surge under these conditions would undoubtedly lead to serious flooding here and into the town.	
9	The high environmental/ecological value of the North Kent Marshes, Swale and Faversham Creek is an unique feature of the town and its history and has led to proposals to extend areas of environmental protection and reclamation into the Nagden and Graveney Marshes, both for the benefit of wildlife and ecology, recreation and amenity but also as a means to lessen risks of flooding into the town and as an important balance to developmental pressures elsewhere. The Green Cluster Studies - Faversham Creek Technical Report (March 2008, http://www.tgkp.org/content/Reports/faversham-creektechnical-report-1265039502.pdf) stated:	The consultation draft of the MEASS allows for set-back defences which would perform a similar function to existing defences albeit further inland and closer to Faversham. This would create an intertidal area rather than a flood plain so would have little effect on flood storage capacity.
10	Over a decade ago, then, Key Stakeholders - including the Environment Agency, Swale Borough Council, Kent County Council, Faversham Town Council and local Parish Councils, Medway Ports, Kent Wildlife Trust, RSPB, Natural England, Groundwork Kent & Medway, Faversham Enterprise Partnership Ltd, The Cambria Trust, London Array Limited, and Hollowshore Cruising Club - had combined vision for Faversham, capitalising on its unique history, geography and situation, and diametrically at odds with the present proposals for a Solar Array to the north-east of the town.	The long-term management of the coast in this location is the subject of the MEASS, which is awaiting final publication by the Environment Agency. The Applicant has engaged with the EA in detailed discussion since September 2017 including responding to the EA's consultation on the MEASS. As a result, the Applicant and the EA have taken each other's positions into account. The MEASS is expected to include solutions under either scenario of the Development going ahead or not, and the Applicant is working to ensure that the draft DCO for the project allows for managed realignment to take place on the site if the EA are able to demonstrate that it can be delivered in Epoch 2 (2039 to 2069). To this end, the draft DCO submitted at Deadline 3 [REP3-003] included an updated Requirement 16 which required the Development to be decommissioned following 40 years of operation if the EA can demonstrate that managed realignment can be delivered. That draft Requirement has since been further revised and agreed between the Applicant, the EA and SBC, and was submitted to the Planning Inspectorate on 22 August 2019 [AS-039]. The carbon sequestration potential of managed realignment on the Development site has been considered in a WR
11	The question arises of the inherent dangers of delaying the proposed plans for coastal realignment for another 40-50 years (and with uncertainty beyond that because of land-take and intervening uncontrolled commercial transfers of ownership and responsibility), and thereby preventing the very significant sequestration of Carbon by such means as contribution to the 2050 Carbon Zero target.	
12	(In the reference provided in Table 6 saltmarsh is estimated to sequester 210 g Carbon/ m2/year) These figures imply that	

Ref.	Statement	Applicant's Comment
	200 hectares of regenerating saltmarsh/intertidal habitat at Cleve Hill could have the capacity to sequester between 128 - 438 tonnes of Carbon per year, which is equivalent to capturing 469 - 1606 tonnes of CO2 per year from the atmosphere. Contrary to the limited lifetime of a Solar Array, Carbon sequestration by developing saltmarsh in this way will be ongoing into perpetuity in concert with vegetation growth, sea level rise and corresponding land level rise, providing the 'natural flood defences' described by Michael Gove in an earlier reference.	submitted at Deadline 3 [REP3-025].
13	The figures given above compare closely to those quoted by the World Bank in the paper 'Mitigating Climate Change through Restoration and Management of Coastal Wetlands and Near-shore Marine Ecosystems - Challenges and Opportunities' (https:// openknowledge.worldbank.org/bitstream/handle/ 10986/18318/605780REPLACEM10of0Coastal 0Wetlands.pdf). Table 2 gives Carbon sequestration potential for saltmarsh of 50 - 250 tC/km2/yr, equivalent to 183 - 917 tCO2e/ km2/yr (I km2 = 100 hectares)	
14	A second Research Report prepared by Natural England looks specifically at the challenges of Climate Change in North Kent - and emphasises the 'sense of place' and history of the region, 'Natural England Research Report NERR052 Assessing the potential consequences of climate change for England's landscapes: North Kent.' 4.29 The North Kent coast contains stunning shorelines, tranquil marshland wilderness and a fascinating maritime heritage. The marshes are a distinctive, exposed, flat landscape of pasture and arable land. Agricultural land predominates, with grassland dominating. The estuarial and coastal landscapes are also very rich in wildlife. The North Kent marshes convey a strong sense of space, remoteness and quietness, a special quality in the South East of England. The wide open spaces and big skies convey a special character. The landscape of the Medway Marshes has also long been associated with industrial use, in contrast to the Swale Marshes that have a predominantly agricultural and particularly tranquil, unspoilt character. The landscape of the Isle of Sheppey has a particularly distinctive character as a result of its coastal island situation. A sense of remoteness is accentuated by the physical separation of the island from the mainland by the Swale. This is coupled with a sense of exposure which results from the lack of shelter and elevated, coastal position, this atmosphere can be both invigorating and bleak, depending upon weather conditions (Jacobs Babtie, 2004).	Landscape and visual impacts are assessed in Chapter 7 - LVIA of the ES [APP-037].

Ref.	Statement	Applicant's Comment
15	The ecological value of the coastline and marshes is explicitly stated: 4.44 The Thames, Medway and Swale estuaries and the North Kent Marshes are recognised as one of the most important natural wetlands in northern Europe providing recreational resources as well as invaluable natural flood protection for London. They support mammals such as seals, globally important numbers of breeding and wintering birds, as well as rare plants and insects, and large parts are internationally protected. The marshes are popular places for the enjoyment of nature due to their big open skies providing exceptional panoramic views, a sense of remoteness and spectacular wildlife. Coastal squeeze means that existing and limited saltmarsh is highly vulnerable to degradation from rising sea level: 4.104 Salt marsh and mudflats are highly vulnerable to rising sea level and the associated increase in wave energy, leading to erosion of the seaward edge. Sediments that would naturally be deposited further up shore can also prevented from doing so where coastal defences are in place. Habitat can be lost as it becomes "squeezed" between rising sea levels and static defences. Salt marsh, like other intertidal areas, dissipates wave energy, thus reducing the risk of damage to sea defences and low lying areas. Given the importance of salt marsh to the ecological functioning of the coast, and to flood management, this habitat needs to be incorporated into plans for coastal realignment using existing areas of undeveloped land adjacent to the coast. Mudflats are also vulnerable to coastal squeeze and increased erosion which is likely to be exacerbated as coastal communities respond to climate change. The Thames Estuary 2100 Catchment Habitat Management Plan (Environment Agency 2008) assesses the current location of intertidal habitats and projects changes over the next 100 years. Due to coastal squeeze, salt marsh is largely projected to suffer loss of extent at the expense of expanding mudflats as the sea level rises and the habitat rolls back. The mudflats in the Medway and Swale estuaries are projected to expand in general due to the presence of numerous small islands, whereas the mudflats in the Thames Estuary will decrease (Environment Agency 2008).	The long-term management of the coast in this location is the subject of the MEASS, which is awaiting final publication by the Environment Agency. The Applicant has engaged with the EA in detailed discussion since September 2017 including responding to the EA's consultation on the MEASS. As a result, the Applicant and the EA have taken each other's positions into account. The MEASS is expected to include solutions under either scenario of the Development going ahead or not, and the Applicant is working to ensure that the draft DCO for the project allows for managed realignment to take place on the site if the EA are able to demonstrate that it can be delivered in Epoch 2 (2039 to 2069). To this end, the draft DCO submitted at Deadline 3 [REP3-003] included an updated Requirement 16 which required the Development to be decommissioned following 40 years of operation if the EA can demonstrate that managed realignment can be delivered. That draft Requirement has since been further revised and agreed between the Applicant, the EA and SBC, and was submitted to the Planning Inspectorate on 22 August 2019 [AS-039]. The carbon sequestration potential of managed realignment on the Development site has been considered in a WR submitted at Deadline 3 [REP3-025].
16	The value of coastal habitats for Carbon sequestration is high, even though such places are relatively limited in extent and continuously threatened by loss to land-take and development https://www.sciencedirect.com/science/article/pii/S0272771413005143?via %3Dihub: Changes in value of the carbon sequestration service of coastal habitats are then projected	

Ref.	Statement	Applicant's Comment
	for 2000–2060 under two scenarios, the maintenance of the current state of the habitat and the continuation of current trends of habitat loss. If coastal habitats are maintained at their current extent, their sequestration capacity over the period 2000–2060 is valued to be in the region of £1 billion UK sterling (3.5% discount rate). However, if current trends of habitat loss continue, the capacity of the coastal habitats both to sequester and store CO2 will be significantly reduced, with a reduction in value of around £0.25 billion UK sterling (2000–2060; 3.5% discount rate). If losstrends due to sea level rise or land reclamation worsen, this loss in value will be greater. This case study provides valuable site specific information, but also highlights global issues regarding the quantification and valuation of carbon sequestration and storage.	
17	The effectiveness of wetlands at storing carbon is attested by the proportion of carbon storage within wetland soils, which is estimated to range from 20 to 30% of the global soil carbon reservoir, compared to the distribution of wetlands on the Earth's surface, estimated at 5–8% https://www.researchgate.net/profile/Hans_Brix/publication/235618623_Wetlands_carbon_and_climate_change/links/0deec5332fe1255123000000.pdf. Importantly these authors conclude that: We demonstrate that almost all wetlands are net radiative sinks when balancing carbon sequestration and methane emissions and conclude that wetlands can be created and restored to provide C sequestration and other ecosystem services without great concern of creating net radiative sources on the climate due to methane emissions.	
18	Further to this the RAMSAR International Treaty, which specifically applies to coastline immediately adjacent to and ecologically intimately connected with the Nagden and Graveney Marshes, requires a need for 'more informed, timely decisions and more effective, concerted actions to conserve and sustainably use intertidal mudflats and saltmarshes…'. This quote is taken from the abstract of the paper https://www.ncbi.nlm.nih.gov/pubmed/23669560, which begins by stating: The adoption of the Convention on Wetlands of International Importance in Ramsar, Iran in 1971 committed the UK to conserve and sustainably use intertidal mudflats and saltmarshes for the benefit of present and future generations. Through consideration of their importance and value, current status, the characteristics, causes and consequences	

Ref.	Statement	Applicant's Comment
	of their loss, and the associated responses to loss, this paper reviews the UK progress towards the conservation and sustainable use of intertidal mudflats and saltmarshes. Uncertainties in their current status and trends make it difficult to assess the overall net change in extent across the UK. However, it is apparent that losses due to erosion continue to exceed gains from intertidal mudflat and saltmarsh reparation (IMSR) schemes in south-east and southern England.	
19	seminal paper on the saltmarshes of Essex and North Kent was written by Fiona Burd in 1992 (http://archive.jncc.gov.uk/pdf/ Pubs92_Saltmarshes_of_Essex_&_North_Kent _1973-1988_PRINT.pdf). This concludes that the saltmarshes are undoubtedly experiencing erosion due to sea level rise and that saltmarsh to the seaward of sea defences provides an important contribution to the stability of the sea walls. Furthermore: An important element highlighted by work in the Mississippi Delta is that there is a delay of several decades before the response of the ecosystem to sea-level rise becomes evident, but the rate of response may accelerate with time. It is therefore important that any action to prevent future catastrophic consequences of sea-level rise should be taken sooner rather than later.	
20	The Cleve Hill proposals therefore threaten the future and integrity of the town of Faversham whilst contributing nothing to this future locally and preventing the acknowledged policy of the Environment Agency and others, stated over a previous decade or more, to carry out Managed Realignment of the coastal defences within a short timescale; thereby extending valuable and rare saltmarsh and wetlands, satisfying Habitat Directives, ameliorating increasing risks of flooding into the town and surrounding area, and enabling more natural and ongoing ecological response to rising sea level. The excessive scale and demands of the Cleve Hill Solar proposal mirror other proposals for development around the town that would change its character out of all recognition in the forthcoming 40 - 50 years, place intense demands on unprepared and insufficient infrastructure and illustrate the triumph of globalism over localism at a time when 'sense of place' becomes the defining principle of democratic progress and philosophy	The Applicant considers that the Development directly addresses the two most serious challenges facing humanity referenced in the opening paragraph of this response. The Applicant does not agree that the Development threatens the future and integrity of the town of Faversham.
21	At the final analysis Climate Change disturbs the integrity and ability of the natural environment to adapt and re-equilibrate to new parameters induced by man-made emissions. Understanding, monitoring and utilising these natural processes of adaptation	The Development has been subject to the latest version of DEFRA's biodiversity metric calculator and found to offer biodiversity net gain relative to the arable baseline (Deadline 4 submission document reference 12.5.8).

Ref.	Statement	Applicant's Comment
	and re-equilibration have primary importance when they can contribute to the the UK Government's avowed 25-year plan to leave our environment in a better state than we found it https://www.gov.uk/government/publications/25-year-environment-plan.	
22	When it can be shown (in 1994) that 609.77km2 of secondary land-take is devoted to car parking and the motor car and virtually none of this degraded and tarmac covered 'brownfield' has been utilised for Solar Arrays https://www.eco-logica.co.uk/pdf/CPRELandTake.pdf?fbclid=IwAR19wnP0TvqjbZFn49WynOd7D4iYxvJy1ixov4n4f3FpMNcWrKRfQ9e01ZE; that 'Generally Nordic countries have the highest market penetration rate of heat pumps. In particular, Norway has the highest share of heat pumps proportion with more than one third of all household equipped with a heat pump. 95% of new heating systems are heat pumps. The UK is at the other end of the scale with heat pumps representing less than 1% of new heating systems' https://www.london.gov.uk/sites/default/files/low_carbon_heat_-_heat_pumps_in_london_.pdf; that a research paper on large scale Lithium Battery energy storage raises questions about potential safety, the sourcing of raw materials (and human/ environmental costs of so doing) and effective lifetime of installations, the comparative values of centralised and dispersed solar and energy storage, whilst discussing future technologies and accepting the need for renewables that there are valid future concerns about such a burgeoning and supposedly 'green' technology as solar arrays reach the end of their lives https://www.theverge.com/2018/10/25/18018820/solar-panel-waste-chemicals-energy-environment-recycling; and that it is individuals rather than commerce and Government that truly drive environmental protection and restoration against innate inertia and vested interests (as perfectly illustrated by the Carrifran Project in the Southern Uplands of Scotland http://www.carrifran.org.uk , "where one tree survives, with our help, a million trees will grow") - then the equation becomes more complex and equivocal. As Professor Aubrey Manning says in his Foreword to the book describing the Carrifran Project (an example of re-wilding underpinned by rigorous science and application and collective action, and which stands as an exemplar for all such initiatives)	The Applicant has submitted an OBFSMP at Deadline 4 which addresses the safety requirements of the energy storage facility (document reference 12.5.1).
23	At the end of the day the health of the environment and ecology of those places	The Applicant has responded to detailed submissions in respect of marsh harrier, including REP2-072 and REP3-057

Ref.	Statement	Applicant's Comment
	where we live might fairly be expressed by the poetry of the Marsh Harrier criss-crossing that habitat where it lands to make its nest, and the quality of the wider landscape in which it raises its young, beautifully captured in this video https://www.youtube.com/watch?v=IdBJ0ZLN57c (Marsh Harrier at RSPB Minsmere). To put the marsh harrier population in context, although the population has increased since 1990s this is one of the UK's rarer breeding birds with a population of circa 361 pairs. This puts it scarcer than another iconic bird of prey the Golden Eagle with a breeding population of c 508 pairs. And much rarer than the introduced Red kite with a population of c 1600 pairs in the summer. (https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010085/EN010085-000996-Bob%20Gomes%20-%20Written%20Summary%20(OFH%202).pdf)	in section 3.1 of this document.
24	(On the subject of this bird that in many ways defines the landscape of the North Kent Marshes I would add this reference from a close study of its habitats and breeding success, and ongoing recovery in numbers https://www.iccs.org.uk/wp-content/uploads/2011/10/Bennett_Charles_ConSci_2014.pdf, which concludes: 'In terms of management, it is clear that wetlands are the most important habitat for the majority of the population and threats of wetland drainage and degradation is still topical (Millennium Ecosystem Assessment, 2005). Managing wetland drainage and degradation may be considered a priority for not just the Marsh Harrier, but for wider environmental and ecosystem functions. In parallel, agricultural habitats may also be considered an important habitat that should be included in the management strategy of this recovering species.' --- 'Taking a precautionary approach to protect natural habitats is a sensible strategy as there are still many uncertainties associated with climate change, especially in agricultural landscapes.' The latter day value of Kentish populations of this bird are shown in Figure 2 and raise considerable unanswered questions about the impact of such profound changes and inherent uncertainty in its range and habitat as would be imposed by the Cleve Hill Solar proposal)	

4 APPENDIX A - DEADLINE 3 RESPONSES RECEIVED TRACKER

Table 4.1: Deadline 3 Responses Received

PINS Reference	Written Representation Received from	Type of Submission	Location of Applicant's Response
REP3-049	Canterbury City Council	Local Landscape Designation Review and Recommendations	Response provided in Section 2
REP3-050	Faversham and Swale East Branch Labour Party	Request for additional Issue Specific Hearing	Response provided in Section 2
REP3-051	Faversham Town Council	Written summary of oral submission presented at Open Floor Hearing 1	Addressed in the Applicant's written summary of open floor hearings 1 and 2 [REP3-012]
REP3-052	Graveney with Goodnestone Parish Council	Request for additional Issue Specific Hearings	No response required
REP3-053	Graveney with Goodnestone Parish Council	Written summary of oral submission presented at Open Floor Hearing 2	Addressed in the Applicant's written summary of open floor hearings 1 and 2 [REP3-012]
REP3-054	Kent County Council on behalf of Kent County Council, Swale Borough Council and Canterbury City Council	Response to Action Point 1 - Local Landscape Designation Review and Recommendations	Response provided in Section 2
REP3-055	SBC	Response to Action Point 1 - Local Landscape Designation Review and Recommendations	Response provided in Section 2
REP3-056	SBC	Written summary of oral submission presented at Issue Specific Hearing 4	Response provided in Section 2
REP3-057	Bob Gomes	Written summary of oral submission presented at Open Floor Hearing 2	Response provided in Section 3
REP3-058	Bruno Erasin	Written summary of oral submission presented at Open Floor Hearing 1	Response provided in Section 3
REP3-059	Bruno Erasin	Written summary of oral submission presented at Open Floor Hearing 2	Response provided in Section 3
REP3-060	CPRE KENT	Request for additional Issue Specific Hearing	No response required
REP3-061	CPRE	A written statement from Richard Knox-Johnston concerning the Open Floor Hearing of 22nd July	The Applicant provided a verbal response to the concerns raised at the start of Issue Specific Hearing 3
REP3-062	CPRE KENT	A further statement on biodiversity	Response provided in Section 2
REP3-063	CPRE KENT	A written statement on aviation glare	Response provided in Section 2
REP3-064	CPRE KENT	A statement on a recent SoS decision on an energy recovery facility, supported by a copy of the SoS's letter	Response provided in Section 2
REP3-065	CPRE Kent	A statement on Climate Change and Carbon Sequestration, supported by a partial transcript of evidence given by the Chairman of Natural England to the Environmental Audit Committee	Response provided in Section 2

PINS Reference	Written Representation Received from	Type of Submission	Location of Applicant's Response
		on 23rd July	
REP3-066	Faversham Creek Trust	Written summary of oral submission presented at Issue Specific Hearing 3 and 4	Response provided in Section 2
REP3-067	Faversham & Oare Heritage Harbour Group	Written summary of oral submission presented at Issue Specific Hearing 3	Response provided in Section 2
REP3-068	The Faversham Society	Cover Email	No response required
REP3-069	The Faversham Society	Request for additional Issue Specific Hearing	Response provided in Section 2
REP3-070	The Faversham Society	Written summary of oral submissions presented at Issue Specific Hearing 1 and 4 - request for additional hearings	Response provided in Section 2
REP3-071	The Faversham Society	Written summary of oral submission presented at Open Floor Hearing 2	Addressed in the Applicant's written summary of open floor hearings 1 and 2 [REP3-012]
REP3-072	GREAT	Request for Additional Issue Specific Hearing	Addressed by the Applicant in an additional submission [AS-037]
REP3-073	GREAT	Written summary of oral submission presented at Open Floor Hearing 1	Addressed in the Applicant's written summary of open floor hearings 1 and 2 [REP3-012]
REP3-074	GREAT	Written summary of oral submission presented at Open Floor Hearing 2	Addressed in the Applicant's written summary of open floor hearings 1 and 2 [REP3-012]
REP3-075	GREAT	Photos shown during the Accompanied Site Visit - Taken in February 2019	No response required.
REP3-076	Helen Whately MP	Written summary of oral submission presented at Open Floor Hearing 1	Response provided in Section 2
REP3-077	Jan Pritchard	Written summary of oral submission presented at Open Floor Hearing 2	Addressed in the Applicant's written summary of open floor hearings 1 and 2 [REP3-012]
REP3-078	John Ellis	Written summary of oral submission presented at Open Floor Hearing 2	Addressed in the Applicant's written summary of open floor hearings 1 and 2 [REP3-012]
REP3-079	Kent Wildlife Trust	Response to questions raised at Issue Specific Hearing 4	Response provided in Section 2
REP3-080	Marie King	Written summary of oral submission presented at Open Floor Hearing 2	Addressed in the Applicant's written summary of open floor hearings 1 and 2 [REP3-012]
REP3-081	Matthew Hatchwell	Written summary of oral submission presented at Open Floor Hearing 1	Response provided in Section 3
REP3-082	Natural England	Written summary of oral submission presented at Issue Specific Hearing 4	Response provided in Section 2
REP3-083	Penelope Geoghegan	Representation made by a non Interested Party - Accepted at the discretion of the Examining Authority	Response provided in Section 3
REP3-084	Rosalind Coward	Written Summary of Oral submission present at OFH2	Addressed in the Applicant's written summary of open floor

PINS Reference	Written Representation Received from	Type of Submission	Location of Applicant's Response
			hearings 1 and 2 [REP3-012]
REP3-085	Stephen Ledger	Written summaries of oral submissions presented at Issue Specific Hearing 1 and 4	Response provided in Section 3
REP3-086	Swale Friends of the Earth	Written summary of oral submission presented at Open Floor Hearing 1	Addressed in the Applicant's written summary of open floor hearings 1 and 2 [REP3-012]
REP3-087	Tom King	Written summary of oral submission presented at Open Floor Hearing 2	Addressed in the Applicant's written summary of open floor hearings 1 and 2 [REP3-012]
REP3-088	Victoria Osborne	Written summary of oral submission presented at Open Floor Hearing 1	Addressed in the Applicant's written summary of open floor hearings 1 and 2 [REP3-012]
AS-038	Dr Tim Ingram	Written Representation	Response provided in Section 3