Joint response of Suffolk Coastal District Council and Suffolk County Council to Scottish Power Renewables Phase 4 Public Consultations on East Anglia One North and East Anglia Two Offshore Wind Farm Projects

GLOSSARY OF ACRONYMS

AADT	**Annual Average Daily Traffic**
AIL	**Abnormal Indivisible Load**
AIS	**Air Insulated Substation**
AONB	**Area of Outstanding Natural Beauty**
AQMA	**Air Quality Management Area**
AQS	**Air Quality Strategy**
BLF	**Beach Landing Facility**
BNL	**Base Noise Level**
CCS	**Construction Consolidation Site**
CEMP	**Construction Environment Management Plan**
CIA	**Cumulative Impact Assessment**
CIfA	**Chartered Institute for Archaeologists**
CL:AIRE	**Contaminated Land: Applications in Real Environments**
CLEA	**Contaminated Land Exposure Assessment**
CMS	**Construction Method Statement**
CTMP	**Construction Traffic Management Plan**
CRTN	**Calculation of Road Traffic Noise**
dB	**Decibels**
DBA	**Desk Based Assessment**
DCO	**Development Consent Order**
DEFRA	**Department for Environment, Food and Rural Affairs**
DMO	**Destination Management Organisation**
DMP	**Dust Management Plan**
DMRB	**Design Manual for Roads and Bridges**
EA1	**East Anglia One**
EA1N	**East Anglia One North**
EA2	**East Anglia Two**
EA3	**East Anglia Three**
ES	**Environmental Statement**
ETG	**Expert Topic Group**
FRA	**Flood Risk Assessment**
GIS	**Gas Insulated Substation**
GVA	**Gross Value Added**
HDD	**Horizontal Directional Drilling**
HDV	**Heavy Duty Vehicle**
HER	**Historic Environment Record**
HGV	**Heavy Goods Vehicle**
LAQM TG	**Local Air Quality Management Technical Guidance**
LBCA	**Listed Building and Conservation Act 1990**

LCT	**Landscape Character Type**
LDV	**Light Duty Vehicle**
LGV	**Light Goods Vehicle**
LVIA	**Landscape and Visual Impact Assessment**
MMP	**Materials Management Plan**
NALEP	**New Anglia Local Enterprise Partnership**
NG	**National Grid**
NO2	**Nitrogen Dioxide**
NPPF	**National Planning Policy Framework**
NPS	**National Planning Statement**
NSIP	**Nationally Significant Infrastructure Project**
O&M	**Operations and Maintenance**
PEIR	**Preliminary Information Report**
PROW	**Public Right of Way**
RAG	**Red, Amber and Green**
RMSE	**Root Mean Square Error**
RSPB	**Royal Society for the Protection of Birds**
SCC	**Suffolk County Council**
SCDC	**Suffolk Coastal District Council**
SCT	**Seascape Character Type**
SLVIA	**Seascape Landscape and Visual Impact Assessment**
SPA	**Special Protection Area**
SPR	**Scottish Power Renewables**
SPS	**Suffolk Preservation Society**
SSSI	**Site of Special Scientific Interest**
SuDS	**Sustainable Drainage Systems**
SWDP	**Surface Water Drainage Plan**
WEB TAG	**WEB Transport Appraisal Guidance**
WFD	**Water Framework Directive**
WSI	**Written Scheme of Investigation**
WWII	**World War 2**

RESPONSE OF SUFFOLK COASTAL DISTRICT COUNCIL AND SUFFOLK COUNTY COUNCIL TO PHASE 4 PUBLIC CONSULTATIONS BY SCOTTISH POWER RENEWABLES ON THE EAST ANGLIA ONE NORTH AND EAST ANGLIA TWO OFFSHORE WIND FARMS.

INTRODUCTION

1. This document is a joint response from Suffolk Coastal District Council and Suffolk County Council (referred to as "the Councils" in this response) to Scottish Power Renewables (SPR's) Phase 4/Section 42 public consultation on both East Anglia One North (EA1N) and East Anglia Two (EA2) windfarm projects. The direction and head line comments of the response were formally agreed in Cabinet meetings of the Councils, on 11 March 2019 by Suffolk Coastal District Council's Cabinet and on 12 March by Suffolk County Council's Cabinet.

The recommendations the Cabinets supported were:

2. That the Cabinet is recommended to inform SPR that the Councils continues to support the principle of offshore wind as a significant contributor to the reduction in carbon emissions and for the economic opportunities that they may bring to ports in the NALEP geography that could support the construction and maintenance of the windfarms.

   Notwithstanding this position the Councils:

   a) Object to EA2 in relation to the significant effects predicted offshore by SPR on seascape, coastal landscapes, character and qualities of the Area of Outstanding Natural Beauty (AONB) and cumulatively with EA1N. The EA2 project will result in a significant change to the sea views from key viewpoints on the AONB coast with the horizon cluttered with turbines. An impact which will be continuously experienced along the coastline further exacerbated when viewed in combination with EA1N and other existing wind farm arrays. It is also recommended that the Councils express concerns in relation to the effects of EA1N on seascape, landscape and visual effects and objects in relation to the cumulative impacts with EA2

   b) Object to the overall impact of the onshore substations of EA1N and EA2 individually and cumulatively on the village and environs of Friston, including on archaeological and heritage assets, landscape character, visual effects, noise and residential amenity. The development of the substation site will permanently change the character of the landscape and have significant visual effects with the setting of the village and the relationship between the historic buildings and their

farmland setting permanently changed. The development will also introduce a noise source within an existing tranquil location which at the present noise limit set (35dB) would unacceptably increase the background noise levels;

c) Are of the view the impacts on the cable route are predominantly capable of being mitigated in the long term but the Councils need to discuss with SPR the measures necessary to mitigate impacts during the construction period including the transport impacts.

d) Register concern about both EA1N and EA2 projects in relation to the following matters:
   i) Loss and sterilisation of good quality agricultural land at Friston in order to accommodate the substations for the projects;
   ii) Impact on the Grade II listed building at Aldringham Court and its landscape setting from the cable route.

e) Seek further information from SPR on both EA1N and EA2 projects in relation to the following matters:
   i) Impacts on air quality during the operational and construction phases of the projects, justifications for assessment scope and modelling results and cumulative impacts with Sizewell C;
   ii) Gaps in the information available on flood risk impacts and flood alleviation;
   iii) Noise sources on site including National Grid infrastructure and mitigation;
   iv) Highways modelling assessments and assumptions utilised, highways mitigation proposed and how this would be implemented and secured;
   v) Coastal processes associated with the cable landing point;
   vi) Ground contamination mitigation,
   vii) Ecology mitigation and justification for scope of assessments;
   viii) Archaeological surveys and results;
   ix) Impact of projects on heritage assets including assessment of coastal heritage assets;
   x) Socio-economic assessment assumptions and employment predictions, labour displacement effects, current skills shortages and mitigation strategies proposed;
   xi) Impact on tourism and recreation during the construction and operation phases and mitigation strategies;
   xii) National Grid connection infrastructure
   xiii) Cumulative impacts of the projects with other projects;

f) Agree to work with SPR to identify the means by which the impact of the proposals can be mitigated and/or compensated if the developments do take

place including the opportunity to achieve betterment in flood alleviation in Friston;

g) Require SPR to work closely with other developers including EDF Energy and National Grid Ventures to consider how mitigation across the schemes can be combined to minimise the impact of the totality of developments in the local area;

h) Seek a wider compensation package from developers and the Government that deals with the broader impacts on community, environment and businesses of this and other energy projects in the area.

3. At the time of writing the Cabinet reports the Councils were only able to provide high level comments and had not had the opportunity to look at all the detail contained within the consultation documents. This response therefore builds upon the contents of the Cabinet reports.

4. SPR has arranged a series of public information days which have been held on a combination of both weekdays and Saturdays and been timed to allow good access by the local population. In addition to the presentation boards which have been available at previous events, a flyover video of the whole offshore and onshore development area of the projects and a computer programme which provided modelled visualisations of the developments were available to view and utilise. As with the previous public information days there was limited information available to take away at the events. It is however accepted that hard copies of the Phase 4 documents were available to view on the day and have been made available at specific locations identified within the Statement of Community Consultation.

5. The Councils have received comments in relation to the relatively short consultation period provided for the Phase 4 consultation. The six week timescale in combination with the volume of information contained within the consultation documents has been a challenge for the Councils and local communities.

6. The purpose of the Phase 4 consultation is to provide Preliminary Environmental Information (PEIR) which sets out the proposals in detail and their potential impacts. SPR has made it clear that the two projects are completely independent of one another and although the consultations are occurring simultaneously, SPR will be submitting two Development Consent Order (DCO) applications, one for each project and it is understood two separate examinations will be held to consider the proposals. This consultation response relates to both the EA1N and EA2 projects. It is made clear within the text when the comments relate to both projects and when they relate

specifically to one. On the whole the comments provided apply to both projects equally; an obvious exception to this is offshore where the offshore development areas for each project are very different.

7. It is important to note upfront in the response that the Councils are supportive of the principle of offshore wind development, both in terms of seeking to reduce carbon emissions and creating sustainable economic growth in Suffolk, including providing for long term employment for some of our coastal communities, provided this can be achieved without significant damage to the environment, residents and tourist economy of Suffolk.

8. This document will provide a comprehensive response to the Phase 4 consultation documentation. The response has been separated into sections relating to offshore, landfall, cable route, substation site and project wide impacts. The recommendations within the Cabinet reports will be picked up in the relevant sections within the report.

PLANNING POLICY CONTEXT

9. The proposals are considered Nationally Significant Infrastructure projects (NSIPs) as established under the Planning Act 2008; consent for an NSIP takes the form of a DCO. The Planning Act 2008 makes provision for National Policy Statements (NPS), which set out the policy framework for determination of NSIP applications. The three NPSs of relevance are EN-1 (Overarching NPS for Energy), EN-3 (NPS for Renewable Energy Infrastructure) and EN-5 (NPS for Electricity Networks Infrastructure).

10. The revised National Planning Policy Framework (NPPF) published in 2019 does not contain any specific policies for NSIPs but remains a material consideration.

11. The 2013 Suffolk Coastal District Local Plan Core Strategy and Development Management Policies Development Plan Document contains policies of relevance. Policy SP12 'Climate Change' is of particular relevance which encourages schemes which create renewable energy where consistent with the need to safeguard residential amenity, the environment and the landscape.

12. The final draft Local Plan has just completed its final stage of public consultation (which ended 25 February 2019) and includes policy SCLP3.5 'Proposals for Major Energy Infrastructure Projects'. This policy identifies the need to mitigate the impacts arising from such developments and will be used to guide Suffolk Coastal District Council and East Suffolk Council in due course. The Plan is in its final round of public consultation but has not yet been examined so only limited weight can be given to it. It is expected to be adopted planning policy shortly after the DCOs are submitted to

the Planning Inspectorate, which is expected the last quarter of 2019. NPSs will however usually over-ride local planning policy.

13. Suffolk County Council's Local Transport Plan (LTP2) recognises the 'Energy Coast' as a key area for growth and development and that the transport sector will be reliant on the development of renewable energy to power electric vehicles.

14. This document refers back to the relevant policies within the response.

SITE SELECTION AND ASSESSMENT OF ALTERNATIVES

15. In the Phase 3.5 consultation, SPR consulted on two alternative sites for sub-stations; Grove Wood, Friston and Broom Covert, Sizewell. The conclusion of the Councils in responding to that consultation was that developing the Grove Wood, Friston site would be hugely detrimental resulting in significant impacts which would be difficult to mitigate. The Councils however stated that prior to SPR making a final decision on the substation site selection they should:

    a) Undertake a Landscape and Visual Impact Assessment (LVIA) on the Grove Wood, Friston site and Broom Covert, Sizewell site to allow the landscape and visual impacts of the development on both sites to be fully understood.
    b) Undertake further work to fully understand the impact of Aldeburgh Road crossing on Grade II listed Aldringham Court and its setting and in terms of the ensuring the projects and potential future projects (wind farms and interconnectors) will be able to be accommodated.
    c) Undertake further work in relation to the connection works and infrastructure layout involved to connect the substation at Broom Covert, Sizewell to the electricity network.

16. SPR however following the Phase 3.5 consultation selected Friston as their preferred substation site. Although an LVIA has been provided with the consultation documents, one was not undertaken in relation to the Broom Covert, Sizewell site and points b) and c) have not been adequately addressed by the information published with Phase 4. The Councils were disappointed Friston was selected by SPR as their substation site without adhering to our recommendations. This is especially important given accessing the Friston site requires cabling through protected woodland which also contributes to the setting of Aldringham Court, an issue the Councils had expressed strong concerns about previously.

17. During Phase 3.5 the Councils stated that no detailed landscape, ecological, archaeological, heritage asset, transport, flood risk, noise, air quality, ground

contamination or socio-economic assessments of the projects have been provided which at the time limited the ability to provide comprehensive comments. The PEIRs provide varying degrees of information in relation to these topics.

COMMENTS ON PHASE 4 DOCUMENTATION AND PRELIMINARY ENVIRONMENTAL INFORMATION REPORTS

18. The following comments are divided into consideration of offshore, landfall, cable route and substation site. In addition there is a section dealing with generic issues which are not spatially specific.

OFFSHORE

Seascape Landscape Visual Impact Assessment (SLVIA)

19. SPR has undertaken a SLVIA for each project. The approach to, and layout and scope of the assessments, appear to be robust covering systematically, and reflecting conversations with SPR to date, the assessment of the impacts of the EA2 and EA1N offshore turbines on;
    a) Seascape Character
    b) Landscape Character
    c) Visual effects on coastal receptors
    d) Visual effects on settlements
    e) Effects on the Character and Special qualities of the AONB
    f) Impacts on users of the Suffolk/England Coast path
    g) Cumulative effects

20. The seascape landscape and AONB Special Qualities baselines are appropriately established. The significance of effect is based on the assigned values of receptor sensitivity and magnitude of change. The assessments cover interrelated landscape and visual effects between different project elements during operation and construction. The methodology considers duration separately.

21. The scope of the work also addresses cumulative impacts between SPR's two projects and cumulative effects with other projects. SPR will need to ensure that the scope of the projects considered is reviewed further prior to submission of the applications later in 2019, given the emergence of new projects.

22. Although the scope of assessments is acceptable the Councils consider that further work is required in relation to the identification of significant effects. The Councils have particular concerns regarding the following:

1. The assessments do not give sufficient weight to the contribution the current uncluttered seascape makes to the condition and character of the coastal landscape and its visual amenity.
2. The assessments do not give sufficient weight to the contribution the current uncluttered seascape makes to the setting, character and special qualities of the AONB.

23. This expresses itself throughout the SLVIAs by;
    3. The undue weight given to the effect on the baseline conditions of the existing Gabbard and Galloper arrays and the consequent impacts on the assigned magnitude of change and susceptibility of receptors.
    4. The undue and potentially inappropriate weight given to the effect on the baseline conditions of Sizewell A and B developments and the consequent impacts on the assigned magnitude of change and susceptibility of receptors.
    5. The apparent lack of recognition of the impacts of the proposals on "wildness" as a special quality of the AONB.

24. The Councils continue to maintain serious concerns over the degree of visual impact that the proposed EA2 windfarm in particular, and in addition to and in combination with the coast-side elements of EA1N and also the Galloper array from certain viewpoints, will have on the character of the East Suffolk shore and its immediate seascape areas.

25. The PEIRs for both EA1N and EA2 (234 and 235) state that the offshore areas affected by the windfarms would remain as 'seascape with windfarms', and would not be affected so much as to be regarded as a 'windfarm seascape'. The Councils accept that this may be the case for the prevailing seascape character areas, but cannot accept it with regard to the fundamental change to the horizon in sea views from key viewpoint locations in the AONB coast. The EA2 PEIR (151) correctly acknowledges that the changes to the character of the nearshore waters between Kessingland and Orford Ness are significant. However the EA1N PEIR (153 & EA2 152) seems to contradict this conclusion by stating that the windfarms, both existing and presumably proposed, are not the defining characteristic of the Offshore Waters Seascape Character Type (SCT), and yet also states that windfarms are a key component of people's surroundings in the SCT. This comes across as not very helpful reasoning and potentially a distraction from the accepted significant changes to the SCT noted in the previous paragraphs of the PEIRs. It is suggested that there should be further discussion and agreed understanding on key judgments within the assessment, especially regarding the magnitude of change in the SCTs. The following paragraph in both documents argues that that landscape planning has already established and accepted landscape change from offshore windfarm development in this seascape.

This statement can only be valid as far as the extent and visibility of current consented development is concerned, and does not at all set a precedent for further development that in the case of EA1N and EA2 would lead to an almost continuous presence of turbines on the horizon from some key viewpoints. Further, the suggestion in the EA1N PEIR (142 & EA2 141) that further development pressure may change the baseline conditions of the assessment is purely speculative and cannot be regarded as a reliable assumption.

26. The Councils note and agree with the concluding paragraph of both Chapter 28s that EA1N will have some significant seascape, landscape and visual effects, and EA2 will have significant seascape, landscape and visual effects on the character of some inshore seascape and coastal edge landscape at the local and regional scale. It is the fact that these areas are nationally designated landscapes (AONB) and form the Heritage Coast, much valued by local residents and visitors who have a key contribution in the local economy that give the Councils such cause for concern.

27. The Councils consider that the fundamental change arising from the proposed combined windfarm developments and EA2 in particular to sea views from key coastal viewpoints is significantly harmful in the effects arising. Specifically in relation to EA2, significant impacts arising from the offshore elements have been identified as follows:
    a) On seascape
    b) On coastal landscapes
    c) The character and special qualities of the AONB specifically scenic quality and landscape quality
    d) Significant impacts on the users of the Suffolk/England coast path
    e) That non-significant impacts on users of the coast path may become significant for long distance walkers, but the distance threshold is not defined
    f) Significant cumulative effects with both EA1N and Sizewell C.

28. The Councils also have some additional concerns in relation to the assessments; these have been listed below and will need to be addressed by SPR in respect of the SLVIAs:
    1. At this stage values assigned to receptor sensitivity and magnitude of change need further detailed review by officers and this may increase the instance of effects being significant in addition to those already identified.
    2. The conclusions of the SLVIAs are not robust; although significant impacts on the AONB and the Suffolk Coast Path are identified as part of the assessments either alone or cumulatively, these are not carried through to, or recognised in, the conclusions of the chapters (28.8); also the significant impacts on the landscape seascape and visual amenity are not satisfactorily made clear in the conclusions.
    3. The Non-Technical Summaries do not adequately reflect the findings of the SLVIAs and LVIAs.

4. The need to ensure an agreed definition of tranquillity for the purposes of the assessment of impacts on the character and special qualities of the AONB.
5. The requirement identified by SPR for further work in respect of the accumulation of non-significant impacts on users of the Suffolk Coast Path that over longer distances may become significant.
6. Definition of susceptibility of landscape receptors. It is notable that where distance appears to have been factored in when defining the susceptibility of landscape to the proposals, this leads to effective double counting and unreasonably downgrades the susceptibility of this landscape to medium when it should be high.
7. Furthermore, whilst noting that Open Coastal Fens Landscape Character Type (LCT) have been assigned low susceptibility, yet viewpoint 6 which is cited in this regard illustrates the clear relationship between this landscape type and the sea and therefore a rating of medium to medium-high (depending on location within the landscape type) would seem to be more appropriate.
8. Definition of the susceptibility of visual receptors also needs to be reviewed systematically in the light of the undue weight given to existing windfarms and Sizewell A and B.
9. Clarification is required regarding the representation of other offshore structures, which appear to be present in photomontages but not the wireframes.
10. Clarification is required regarding the representation of the cumulative impacts, the EA1N and EA2 projects in addition to other offshore arrays appear to be present in the wireframes but are not shown in the photomontages.
11. It is notable that percentage of the view is discussed in the SLVIAs and there is a need to clarify the basis on which this assessment is made.

29. In addition, the report prepared by Alison Farmer Associates for the Suffolk Coast and Heaths AONB Partnership and appended to their response will also be the basis of further technical discussions between the Councils and the applicant prior to the DCO submissions.

30. The conclusions of the SLVIAs do not adequately articulate the significant impacts identified in the assessments that precedes them. It is notable that the conclusions of the assessments do not refer to the AONB and the consequent sensitivity of the receiving landscape.

31. Although the adverse impacts are said to be “restricted to the coastal landscapes of the Suffolk coastline”, the character and condition of these landscapes are integral to the purposes of the designation of the Suffolk Coast and Heaths AONB. This has been

explicitly recognised in relation to the allocation of the Sizewell C site (NPS-EN6 pt 2) and the Councils consider it is also the case in relation to these projects.

32. Based on the information presented to date, and issues identified above, the Councils remain unconvinced that;
    a) The seascape and views from the shoreline will not become dominated by wind turbines, as the conclusion of the assessments contend.
    b) That the EA2 wind farm can be accommodated without "unacceptable effects on seascape, landscape character and visual amenity" as set out in the conclusion of the assessment.
    c) That the findings and conclusions of the SLVIAs are a fully robust basis on which to properly understand the full impacts of the proposals on the coast of Suffolk and the Suffolk Coast and Heaths AONB.

Coastal Heritage Assets

33. SPR has not undertaken a setting assessment for the heritage assets on the coastline that would potentially be impacted by the offshore elements of either proposal. At a minimum all Grade II* and I listed buildings, the Martello Towers and other historic coastal military infrastructure, and the coastal conservation areas should be considered in initial scoping work. Without this work it is not possible to comment on the heritage impacts of this part of the schemes. The need for the setting assessment is amplified by the findings of the SLVIAs.

Offshore Ecology

34. The PEIRs state that migrating wildfowl and waders have been scoped out of the assessments, the Councils need to understand the justification for this especially considering 75% of Europe's wildfowl commute through the North Sea and are are often important migratory visitors to Suffolk. This includes those birds migrating east–west, such as waxwings, as well as north–south. In addition there are migratory bats on this route.

35. The Councils current position on offshore impacts

NPS EN-3 states that 'seascape is an important resource and economic asset' and goes onto state that 'coastal landscapes are often recognised through statutory designations'. The Suffolk coast has both AONB and Heritage Coast designations. The NPS recognises that where an offshore wind farm is within sight of the coast, there may be adverse effects but that the examining authority should not refuse to grant consent solely on these grounds unless:

- it considers that an alternative layout within the identified site could be reasonably proposed which would minimise any harm, taking into account other constraints that the applicant has faced such as ecological effects, while maintaining safety or economic viability of the application; or
- Taking account of the sensitivity of the receptor(s) as set out in EN-1 paragraph 5.9.18, the harmful effects are considered to outweigh the benefits of the proposed scheme.

The indicative details provided in the PEIRs indicate that the turbines for both projects would occupy the full site area whether 75 x 250 metre turbines or 60 x 300 metre turbines. The Councils request that SPR consider possible alternative arrangements for the layout of the turbines, in particular those of EA2 in order to comply with Government policy and seek to minimise the harm caused.

The Councils are of the view, based on the current proposals, that due to the sensitivity of the receptors and the fundamental change arising from the combined windfarms especially EA2, the harmful effects of EA2 are considered to outweigh the benefits. NPS EN-1 recognises the vulnerability of coastal areas to visual intrusion due to the potential high visibility of development on the foreshore, on the skyline and affecting views along stretches of undeveloped coastline. The cumulative impacts of both projects would have significant effects along almost the entirety of the east Suffolk coastline. The effects predicted by SPR would be experienced permanently. It could be argued that 30 years is not permanent but with the option available to repower the turbines, the significant length of time will feel permanent to the Councils and local communities affected.

The Councils therefore object to EA2 in relation to the significant effects predicted by SPR on seascape, coastal landscapes, character and qualities of the AONB and Heritage Coast, users of the Suffolk Coast Path and cumulatively with EA1N. The Councils express concerns in relation to the effects of EA1N on seascape, landscape and visual effects and object in relation to the cumulative offshore impacts with EA2.

Notwithstanding the Councils position in relation to the adverse impacts of the offshore infrastructure the Councils wish to continue to work with SPR and have therefore identified several areas of further work below.

<u>SLVIA</u>

The Councils continue to maintain serious concerns regarding the degree of visual harm that the proposed EA2 windfarm will have and the impact of EA1N cumulatively with EA2 and would ask SPR to consider ways in which the visual impact of the proposals may be mitigated. The Councils also have a number of concerns in relation to the assessments and

recommend the following:

1. SPR review the conclusions of the SLVIA chapters in the PEIRs and the Non Technical Summary documents to ensure they are robust more accurately reflect the findings of the assessments.
2. SPR need to work with the Councils in order to agree a definition of tranquillity.
3. SPR need to undertake further assessment work in respect of the Suffolk Coast Path and specifically on the issue of the effect of an accumulation of non significant impacts over longer distances.
4. SPR needs to systematically review the values given to define the susceptibility of landscape receptors and visual receptors. The Councils are concerned that the susceptilbity of landscape receptors and visual receptors is not accurate and has been downgraded in the assessments.
5. SPR need to provide clarification regarding the representation of other offshore structures which appear in the photomontages but not the wireframes.
6. SPR need to provide clarification as to why cumulative offshore photomontages have not been provided although the cumulative effects have been represented in the wireframes.
7. SPR also need to provide information regarding on what basis the percentage of view discussed within the SLVIAs has been made.

Coastal Heritage Assets

It is recommended that SPR undertake a setting assessment in relation to, as a minimum, all coastal Grade II* and Grade I listed buildings, Martello Towers and other historic coastal military infrastructure and coastal conservation areas.

Offshore Ecology

The Councils would like SPR to provide the justification behind scoping out of migrating birds, including but not limited to, wildfowl and waders and migrating bats from the assessments.

LANDFALL

Coastal Processes

36. The offshore export cables for both projects will make landfall just north of Thorpeness. SPR has undertaken assessments of coastal erosion as it is essential that the cable ducts and the transition bays associated with the joining of the onshore and offshore cables are installed with a suitable setback distance to allow for natural

coastal erosion. SPR identified that the coastline's main uncertainty is in terms of longer change in coastal processes and therefore has committed to setting back the landfall transition bays to the potential 100 year erosion prediction line. It is stated the ducts would be installed with a setback distance of a minimum of 85m from the cliff top. The Councils welcome a precautionary approach to uncertainty over erosion risk in all aspects of design.

37. SPR has confirmed in their documents that the cables will be installed in between the transition bay and point of connection with the seabed trenching process by Horizontal Directional Drilling techniques (HDD). The use of HDD as opposed to open cut excavation is preferred. Notwithstanding this, the Councils have some residual concerns regarding the potential for HDD to create vibration that may cause local destabilisation of the coastal cliffs above. We require SPR to assess this risk including reference to experience at other sites where HDD has been used under granular cliffs. The Councils also require SPR to report on those findings and if a potential for negative impacts is found, SPR should present options for avoidance or mitigation.

38. SPR has stated that the HDD exit location area would be to the south of the Coralline Crag where it is anticipated that the seabed sediment would be suitable for cable burial. The depth of the HDD at landfall must take account of both short term shoreline variability and long term change trends together with an allowance for variability and tolerance in vertical alignment during installation. The consultation documents have highlighted that further geophysical survey and enginnering investigations will be necessary prior to confirmation of a final cable installation location or construction method. The Councils require SPR to share the outcomes and consequences of the further investigations referred to with stakeholders as soon as they are available. Our objective is to avoid significant changes to the design intent and detail as presented to date.

39. SPR has committed to burying as far as possible, the offshore export cables which will help to minimise the need for surface laid cable protection which could affect the movement of sediment along the coastline. The Councils have encouraged SPR to choose cable routes that minimise the risk of significant damage to the Coralline Crag outcrop which comprises a key coastal control feature. We are satisfied that SPR's approach to their cable route option assessments to date has been objective and robust.

40. In relation to decommissioning, SPR has stated that the nearshore cabling will only be removed if there is a risk of cables being exposed overtime but the transition bays would be left in-situ. The Councils believe it is preferable for all cabling and ducting in

the nearshore area and the landfall transition bay to be removed as part of the decommissioning process to avoid the consequences of future shoreline change.

41. The Councils are satisfied that the assessment of potential site specific and cumulative impacts of windfarm groups on coastal processes is robust and that a 2% worst case change is unlikely to produce a significant negative impact. We would require this assumption to be kept under review as part of future impact monitoring programmes.

Water Resources and Flood Risk

42. The landfall transition bays have the potential to create significant disruption to natural groundwater pathways and also generate potentially significant surface water runoff volumes during construction. Two transition bays will be installed per project. The excavation during construction to install two transition bays is considerable (1,554m2), if the bays were constructed simultaneously this would double (3,108m2) and these areas would be in addition to the excavation required for the HDD construction compound and for the CCSs. SPR should carryout an assessment of those impacts and propose appropriate mitigation measures to ensure no worsening of risk to the nearby coastal cliffs over the full life of the landfall transition bays until their removal. The embedded mitigation measures may not be sufficient.

43. During operation, the transition bays for the projects have the potential to alter the surface water drainage characteristics of overlying strata caused by saturation which is unable to percolate beyond the concrete structures. Dependent on the ground levels, this could result in an increase of overland flows. Given the proximity to the cliffs, the distance to which may be reducing throughout the lifetime of the projects, the potential impacts on the cliffs must be considered.

Archaeology

44. A systematic earthwork survey is required across the landing area, where military remains and other earthwork features have been identified in the Desk Based Assessment (DBA). This is a priority piece of assessment work, which should be undertaken pre-consent, as it will be crucial to informing mitigation strategies, which are likely to influence scheme design in this section of the cable route, as preservation in situ may be appropriate for these features. The PEIRs do not currently commit to undertaking this work pre-DCO. Significance may vary for different elements of the remains, and this has not been assessed. Many military features are of high local/regional importance, given the important role that Suffolk played in coastal defence, with significance increased through survival as upstanding remains. We

advise preservation in situ/avoidance as best practice; therefore, full pre-consent assessment is needed.

45. The landfall site should be included in pre-DCO trial trenched evaluation given it is a critical element to the projects with limited flexibility in design and also a time critical part of the schemes. We would cite the extremely challenging issues faced on the Bawdsey East Anglia One (EA1) site as a key reason why early evaluation would be beneficial for SPR here.

Onshore Landfall Ecology

46. The coast at the landfall site is a vulnerable habitat: Coastal Vegetated Shingle and, although it is proposed to HDD under this feature, full details of mitigation and monitoring potential damage and the consequent enhancement will be required.

47. The Councils current position on the landfall impacts:

The Councils at present are seeking further information in relation to a number of elements at the point of landfall. The areas where additional information is required have been set out previously within the report and for clarity listed below.

Coastal Processes

1. The potential risk that HDD works may cause local destabilisation of the coastal cliffs must be fully assessed with reference to other sites where HDD techniques have been used under granular cliffs. If negative impacts are identified, SPR should provide options for avoidance of mitigation.
2. The Councils wish to see the outcomes and consequences of any further geophysical surveys and engineering investigations undertaken as soon as they are available.
3. The Councils wish to see SPR commit to the removal of the landfall transition bays and cabling and ducting in the nearshore area removed during decommissioning to avoid the consequences of future shoreline change.

Water Resources and Flood Risk Assessment

SPR should fully assess the impact of the landfall transition bays and associated works during all phases on natural ground water pathways and surface water runoff and provide appropriate mitigation for the Councils to consider.

Archaeology

A systematic earthwork survey is required to be undertaken by SPR at the landfall site in addition to a trial trenched evaluation prior to the submission of the DCOs.

Ecology

The Councils would like to see full details of the mitigation to be provided in relation to the HDD works at the landfall in order to prevent harm to the vulnerable coastal habitats.

CABLE ROUTE

48. The onshore cable route which accommodates both EA1N and EA2 projects, travels north from the landfall site at Thorpeness within the AONB, crosses the Sandlings Special Protection Area and Aldeburgh-Leiston Site of Special Scientific Interest (SSSI) south of Sizewell Gap Road and then heads in a westerly direction crossing Thorpeness Road, Aldeburgh Road, Snape Road and Grove Road prior to terminating just north of Friston village. There are two points within the cable route which SPR has committed to a reduced cable swathe; Sandlings (SPA) and Aldeburgh and Leiston SSSI crossing and at a narrowing in the cable route immediately to the south of Aldringham Court which comprises protected woodland. Aldringham Court is also a Grade II listed building and the woodland forms part of the asset's setting.

49. SPR has committed to laying the onshore cables underground and therefore the impacts in relation to the cable route of the projects are mainly confined to the construction and decommissioning phases. There is one exception to this which relates to the section of the cable route which runs to the south of Aldringham Court where the effects will be permanent and experienced during the operational phases of the projects. The Councils remain concerned in relation to these permanent effects which will be considered in more detail below.

Landscape Visual Impact Assessment

50. The Councils acknowledge that there will be some significant but temporary landscape and visual impacts arising from the construction phases of both projects, where these pass through the landscape between landfall and substation sites. SPR will be expected to put forward a comprehensive program of landscape restoration to ensure that harm to the fabric of the landscape is restored in the most effective way such that there are no long term residual adverse effects arising. It is expected that all hedgerows and woodlands/areas of tree cover that need to be removed should be surveyed in detail prior to removal in order that the post-construction landscape

restoration program is fully informed by the existing landscape fabric baseline. In addition, hedgerows should surveyed according to the criteria set out in the 1997 Hedgerow Act Regulations in order that hedgerows that fulfill the 'important' criteria under the Act can be fully identified and options for avoidance can be considered as appropriate. This approach was an integral part of the EA1 and East Anglia Three (EA3) cable corridor methodology.

Public Rights of Way

51. The NPPF states that 'planning policies and decisions should protect and enhance public rights of way and access, including taking opportunities to provide better facilities for users, for example by adding links to existing rights of way networks including National Trails'. The Councils expect this principle to be followed during construction of both EA1N and EA2.

52. The access network - public rights of way (PROW), open access and common land are key features of the visitor experience in coastal Suffolk. The quality of the coastal landscape, its high level of accessibility on foot, by bike or on horse and this connectivity to the coastal towns, villages and hinterland, are the draw for visitors. The consultation does not appear to recognise that although an individual footpath is not a tourist attraction by itself, it is part of the overall tourism attraction to this part of east Suffolk.

53. The consultation documents list the PROWs which are crossed by the cable corridor or used as access to the cable corridor. SPR has however not shown the PROWs on any of the large scale plans with the correct status and path numbers. The duration of the physical works affecting each PROW is also not made clear. For example, the bridleway from Friston to Knodishall, part of the Sandlings Walk, is crossed by the cable corridor, has an associated CCS and will be the haul road into the substation site for 3 years and possibly more. Other PROWs may only require temporary closures of short duration such as a few weeks.

54. SPR has stated that management measures or temporary alternative routes will be agreed with Suffolk County Council prior to construction. However, the Councils require management measures, alternative routes and mitigation for the impact on the PROW network to be agreed prior to the submission of the DCOs.

55. Further advisory principles in relation to the PROW network can be found within Appendix A.

Land Use

56. The cable corridor for the projects predominantly crosses agricultural land. Agricultural land is vulnerable to structural damage, erosion, compaction and the introduction of notifiable weeds. The works may significantly degrade soil quality and future agricultural productivity. In particular soil stripping, the formation and long-term presence of stockpiled top soil and the creation of a hard-packed haul road is likely to impact arable land. Mitigation measures in the form of a Soils Management Plan (SMP) should be adopted to ensure the land is properly reinstated, uneven compaction is avoided, and top soil degradation is minimised, so as to allow the agricultural land to be suitably reused. These comments would apply equally to the substation area, although the land may not be able to be utilised again for agricultural production significant mitigation planting is proposed in the locality.

Aldringham Court (Grade II)

57. Aldringham Court and its grounds were designed by local architect Cecil Lay. The historic and architectural interest that comes from this association with a well-known local architect contributes to the significance of the asset. The impact on the setting of Aldringham Court relates to the removal of trees along the cable route. This would require the cutting and maintenance of a 16.1m wide swathe for one project or 27.1m swathe for both projects through the grounds to the south of the house. Woodland cannot be replanted above the cables. The grounds are part of Lay's original design and therefore this designed garden setting is important to the understanding of the significance of the building. The loss of part of the original design would therefore fundamentally alter this setting as part of the original design would be lost resulting in harm to the significance of the listed building.

58. SPR has not yet refined the cable corridor to illustrate the positioning of the cable swathe for one or two projects through the woodland. Figure 26.7 in both PEIRs identifies the intention to provide a new temporary construction access point off Aldeburgh Road to allow access to the haul road heading west. In appendix 26.14 of both PEIRs (drawing number TP-PB4842-DR008-D0.2) the position of the access is illustrated in close proximity to the listed building. It is therefore assumed that the cable swathe would be in a similar position. This positioning so close to the listed building is of significant concern to the Councils.

59. There is very limited scope to mitigate this harm to the setting of Aldringham Court caused by the cable corridor and permanent removal of woodland however this harm could be lessened to a degree by the retention of a section of woodland immediately to the south of the building.

60. The Councils are disappointed SPR has not completed the settings assessment work and remain concerned about the potential permanent impacts resulting from the cable corridor in this locality which would cause the loss of a section of protected woodland which also forms part of the setting of Aldringham Court contributing to the building's significance.

Water Resources and Flood Risk

61. The formation of the cable route from the landfall to the substation site involves the removal of the top soil. Once topsoil has been stripped from the cable corridor there is an inherent risk of increased sediment laden surface water run-off. No details have been stated regarding how this will be managed. We expect this to be included in the Construction Method Statement (CMS).

62. We note that land drainage systems will be maintained and where necessary repaired following construction to ensure the continued drainage of the surrounding area.

63. The working width illustrations show a drainage ditch between one of the trenches and the access road. This will presumably drain the access road using a cross-fall. The Councils note the ditch looks to be located quite close to the open trench. It is also unclear how the area the other side of the central bund will drain. The Councils expect a lot of this detail will be provided as part of the Surface Water Drainage Plan (SWDP). The bunding will restrict any existing overland flows. Whilst there are only two major overland flow paths within the site extents, smaller, localised flow paths may be impacted which could directly feed some of the ponds located within the construction area. Care must be taken to ensure these re-directed overland flows do not increase flood risk.

64. Edge drains are shown either side of the cable working width however it is not stated anywhere what these edge drains consist of or what they are designed to do.

65. The risk of groundwater flooding during construction has been assessed in the Flood Risk Assessments. It is acknowledged there is a risk of groundwater flooding, most likely in the excavations, in the area of Coldfair Green and Aldringham. The Councils expect further details (such as borehole logs) to further inform the risk of groundwater flooding. Thereafter, any required mitigation measures would be included in the CMS and SWDP of each project.

66. The construction method of the temporary haul roads and access roads is yet to be established, other than it will consist of a suitable imported material. It is considered

likely, similar to the temporary works areas that these surfaces will not be permeable surfaces and should therefore be accounted for as an impermeable area in the design of the SWDP. This is imperative given these roads will be required for access throughout the construction of the projects and could act as an exceedance route for flood flows to leave the sites defined boundaries.

67. The Construction Consolidation Sites (CCS) will require their own SuDS (Sustainable Drainage System) based surface water drainage strategy which we expect to be provided in the SWDP. At almost 41,000m^2 each, these are significant construction areas which will need to be managed carefully to ensure there is no increase in offsite flood risk or pollution.

68. There is a CCS proposed adjacent to Grimseys Lane, Leiston. Leiston has a history of surface water flooding with multiple properties at risk from future flooding. The location of a CCS upstream of Leiston that could contribute to overland flows is discouraged. We recommend the CCS is sited in a location that cannot contribute to an increase of flood risk in Leiston. If this is unavoidable, the sites SuDS must be designed accordingly. Any SuDS utilising infiltration must have a factor of safety of 10. Maintenance and monitoring requirements must be more frequent than standard for other SuDS components on site. The sizing of surface water storage structures must take account of this risk.

69. There is very little acknowledgement of Ordinary Watercourses throughout the PEIR documentation. The number of Ordinary Watercourse crossings along the cable route has not been established. The Main River crossing is assessed in more detail, as would be expected, however some details regarding Ordinary Watercourses and the localised risk presented by inadequate mitigation must be assessed. Acknowledgement is made that the Environment Agency will be consulted "to help determine the detailed method statement governing each crossing". It should be noted that any works, temporary or permanent, to an Ordinary Watercourse, not within an Internal Drainage Board area, will require Land Drainage Consent from the Lead Local Flood Authority (Suffolk County Council). If the draft DCOs intend to dis-apply the Land Drainage Act 1991 there must be Protective Provisions.

70. The Councils are confident the mitigation measures applied to the Main River crossing could be applied to Ordinary Watercourse crossings to mitigate any impacts. However, this may be onerous and over-engineered when the type of watercourse being crossed is compared. We therefore strongly suggest SPR detail mitigation measures for work to Ordinary Watercourses separately and acknowledge the requirement to obtain Land Drainage Consent. The use of clear span bridges is preferred to be used wherever possible as opposed to culverts.

71. A programme of Ordinary Watercourses monitoring throughout the construction phases must be specified in the CMS for each project. This is critical for Ordinary Watercourses adjacent to working areas, receiving surface water from site and those at risk of receiving sediment. This is to ensure there is no increase in flood risk or pollution.

72. It is acknowledged that the timing of watercourse works is important with periods of low flow "chosen wherever practicable". This is critical when working across the Main River but is also important for Ordinary Watercourses and must be a consideration when developing working methods. Given the duration of works, we appreciate that watercourse crossings may be undertaken during periods of wet weather. Methods of working must be in place to prevent any increase in flood risk or pollution.

73. During operation the cable routes are not expected to present any surface water or ground water flood risk. The cables will present a minor impermeable surface to the percolation of water however this is not significant. The impermeable areas created by the jointing bays are smaller than the transition bays and will be located at intervals which should reduce any potential adverse impact.

Archaeology

74. The Councils are pleased that a geophysical survey has been undertaken, although there are a number of key land parcels which have not yet been able to be surveyed (including additional areas now included in the onshore site area). This work should be undertaken as a priority at the earliest opportunity, before submission of the DCOs, given that they include high archaeological potential areas, in key sections of the cable corridor which have limited flexibility.

75. A full systematic earthwork survey for all areas where earthworks have been identified within the onshore site area is still required, before submission of the DCOs. The PEIRs do not however commit to undertaking this work.

76. The onshore site area now includes additional areas for works including road improvements, water management, landscaping, haul routes, site accesses and overhead line works, these areas need to be included within the assessments.

77. The Councils have previously advised that all elements of the schemes should be subject to trial trenching and this remains their advice, notwithstanding this as a minimum, key areas of the projects with limited flexibility for re-design to allow preservation in situ should be evaluated (using a combination of trial trenching and

metal detecting) prior to the DCO submissions. Also, any sites identified in the DBA or geophysical survey which have the potential to be of high significance or are unable to be avoided by design, should be included in the trial trenched evaluation. A number of the anomalies identified during geophysical survey which are likely to be archaeological in nature are situated in key areas of the projects where flexibility is limited or are of a scale that they cannot be avoided. Therefore, understanding the nature and significance of these remains through trial trenching is essential before planning decisions can be made. The Environmental Statement (ES) should set out the approach to any outstanding archaeological evaluation which is required, alongside mitigation.

78. We would again highlight the severe risk to extremely tight project timetables by leaving all evaluation until post consent which means that archaeological mitigation requirements will not be able to be defined until this point. Delays are possible if extensive areas requiring archaeological mitigation are defined. SPR has committed to a 'lessons learnt' approach following the EA1 project, but in respect of the importance of thorough, early evaluation to inform project design and programming and also to best protect heritage, this does not appear to have occurred.

79. Archaeology should be factored into traffic management, water management, dust and spoil management and ecological works plans, as proposals have the potential to have archaeological impacts. To avoid conflicts between different priorities and proposed mitigations for other aspects, a joined-up, holistic approach is needed. Archaeological matters, as well as being in the Written Scheme of Investigations, should be considered in other management plans. Logistical considerations should be reflected throughout, for example the spoil management associated with archaeological work should be taken into consideration, plant movements factored into the traffic assessments, and the implications of pre-construction archaeological works on ecology fully considered.

80. The Councils understand that there is a tight timescale for the DCO submissions, however, there is sufficient time for trial trenched evaluation to be undertaken. We would not object to further evaluation being completed during the DCOs preparation periods; even if that means that the individual DCO documentation cannot include the results of this work, as this would still ensure that we have sufficient information for the examinations.

81. The Councils do not agree with SPRs claims (143 of the Technical Summaries) that these projects will not have any cumulative archaeological impacts with other projects. Cumulatively, there will be landscape scale impacts to below ground archaeological remains as a result of multiple, large projects within this part of the

County e.g. Sizewell C new nuclear power station proposals. We would also highlight that EDF Energy is undertaking full up-front evaluation for all scheme elements associated with Sizewell C and so the pre-DCO work which has been requested for EA1N/EA2 is consistent with requirements for another NSIPs located in close proximity.

82. In relation to the cable corridor in particular, a systematic earthwork survey is required for the area south-east of Half Way Cottages where known military remains are recorded and have been identified in the DBA. This is a priority piece of assessment work, which should be undertaken pre-consent, as it will be crucial to inform mitigation strategies, which are likely to influence scheme design in this section of the cable route, as preservation in situ may be appropriate for these features. The PEIRs do not currently commit to undertaking this work pre-DCO which the Councils are concerned about. Significance may vary for different elements of the remains, and this has not been assessed. Many military features are of high local/regional importance, given the important role that Suffolk played in coastal defence, with significance increased through survival as upstanding remains. We advise preservation in situ/avoidance as best practice; therefore, full pre-consent assessment is needed.

83. Although best practice would be for the entire cable route for each project to be subject to pre-DCO trial trenching, the Councils accept that there is flexibility to design around below ground archaeological remains along some sections of the route. Areas which should be included in pre-DCO trial trenched evaluation are:
    1. The Aldringham crossing point and adjacent land parcels leading into and away from the crossing; and
    2. The section of the route north of Friston which leads into the substation site, as in these areas the maximum working width narrows and extensive geophysical anomalies across the entire width of the cable swathe has been defined, meaning that avoiding all archaeological remains will not be possible. Therefore, evaluation will allow the significance of features already identified, plus any additional surviving below ground remains, to be assessed and therefore impacts to be understood.

84. Any prehistoric funerary monuments which are defined along the cable route, especially if forming part of cemetery associated with upstanding Scheduled monuments surviving on Aldringham Green and Aldringham Common have the potential to be considered as nationally significant.

85. As trenching rather than direct drilling is proposed into the Hundred River valley, there is high potential for complex deposits to survive in flood zone areas, including paleo-environmental evidence and waterlogged archaeological deposits. Early assessment of

this area is strongly advised, although the Councils note the challenges posed by trees in this section of the route.

Onshore Ecology

86. One of the Councils key ecological concerns is the crossing of the Sandlings SPA (designated for breeding Woodlark and Nightjar) and how this will be mitigated. No assurances have been given by SPR as to how the potential disturbance will be avoided or mitigated but this could be done by rapid work "off-season". If it is known where the lines will enter and leave the SPA, this should be feasible. NPS EN-1 (5.3.7) states that 'as a general principle…developments should aim to avoid significant harm to biodiversity'. The development will also require an Appropriate Assessment under the Habitat Regulations.

87. It is important to note that the bird breeding season for Woodlark starts in February until early August and Nightjar tend to arrive later in spring (April) and tend to leave in August. The Councils understanding is that SPR propose to cut across the narrowest part of the SPA which is about 150 metres. There is also a network of footpaths in this area. Footpaths well used by walkers with dogs will effectively 'sterilise' an area either side of the path. Mitigation for the works can be seasonal (i.e. over winter) and spatial (i.e. within the sterile zone). It is anticipated that Natural England, RSPB and Suffolk Wildlife Trust will provide further comments on this in their submissions. Other possible mitigation might be placing the drilling units (for HDD) behind existing landscape features (such as buildings, hedgerows, tree-lines) and having sympathetic hours of operation. It will be for SPR to come up with a satisfactory mitigation strategy but there does not appear to be any reason why this particular stretch could not be dealt with out of sequence, should that be necessary.

88. It should be noted that Nightjar are birds of dry, open country with some trees and small bushes, such as heaths, commons, moorland, forest clearings or felled or newly planted woodland. When breeding, it avoids treeless or heavily wooded areas, cities, mountains, and farmland. Woodlark habitat is heathland and open spaces with few trees. They prefer clearings in pine forests and heathland and like newly planted areas with pine saplings. The area to be crossed does appear to be suitable habitat for both species.

89. The Councils remain unconvinced that the impacts on the Hundred River and the ecological corridor that it provides are clear. Similarly impacts upon woodland and other associated features which might be brought on by the long undergrounding process are still not clear. The Councils would wish to see how disturbance to existing

ecological corridors and how the increased disturbance to historically “quiet” areas by any road or footpath diversions will be mitigated.

90. There is little or no information on the impacts of construction compounds, parking areas, junction improvements, traffic movements and all of the associated infrastructure upon biodiversity.

91. The Councils are concerned that opening up a corridor such as the cable route, in-line with prevailing winds will turn the feature into a wind tunnel with negative impacts upon wildlife. The Councils would like to understand what investigations have been undertaken by SPR in to this potentially serious impact.

92. The Councils are acutely aware that so many of the offshore impacts are ameliorated by the proposed mitigation strategies. NPS EN-1 requires, the decision maker to take into account potential impacts (cumulative, long-term and adverse) as well as any measures to avoid reduce or compensate for the same. The Councils should be consulted on mitigation strategies. We look forward to seeing full details of the ‘embedded mitigation’ referred to throughout the consultation of which sparse detail has been provided. This ‘embedded mitigation’ will form the backbone of the Construction and Environment Management Plan (CEMP) which the Councils will wish to contribute to. NPS EN-3 (2.4) identifies the requirement for good design for infrastructure and that proposals should demonstrate good design to mitigate, in addition to others, impacts on ecology.

93. The Councils feel that there is a lack of real, proactive commitment to net gain for biodiversity even though this is a requirement set out in NPS EN-1 (5.3.4). SPR are not currently proposing any meaningful enhancement projects.

94. During the construction phases the Councils welcome the appointment of an Ecological Clerk of Works but it is hoped and expected that much better lines of communication will exist compared to previous SPR projects.

95. The Councils feel there has been an inconsistent approach to taking into account cumulative impacts with other projects, in particular Sizewell C and this will need to be remedied.

96. Although the comments provided in this ecology section have been set out in the ‘cable route’ section of the response, the comments equally apply across the whole of the projects particularly those in relation to the importance of the mitigation strategies.

Cable Route and Construction Consolidation Sites (CCS)

97. SPR has not yet refined their onshore development area down to the cable corridor necessary for the two projects and seek to retain some flexibility. This is shown in drawings provided in both Chapter 6s showing the multiple possible cable routes. The Councils request that the final siting of the cable corridor is carefully considered in order to lessen the impact on the community as well as the environment. There are a number of properties which abut the onshore development area and it is important that their quality of the life is taken into consideration.

98. The Councils similarly request careful consideration is given to the location of the CCSs to ensure they are also sensitively sited. The drawings provided in the Chapter 6s illustrate the positioning of some CCSs in close proximity to residential properties which the Councils would request that SPR avoid.

99. The Councils have received complaints regarding noise and disturbance due to the close proximity of the site infrastructure to residential properties and would therefore request that further mitigation measures be considered as necessary. Careful consideration of the design of construction compounds can help to reduce the impact and disturbance caused.

100. Councils current position on the cable route

The Councils remain concerned about the effect of the location of the cable corridor and positioning of the haul road access point off Aldeburgh Road on the setting of Aldringham Court. The Councils are also of the view that further work is necessary in relation to a number of topic areas, a summary of the Councils recommendations are set out below.

Landscape Visual Impact Assessment

1. All hedgerows and woodlands/areas of tree cover that need to be removed should be surveyed in detail. The hedgerows should be surveys in accordance with the criteria set out in the 1997 Hedgerow Act Regulations to allow the identification of 'important' hedgerows. The Councils should be consulted on the results and avoidance strategies utilised if necessary.
2. A comprehensive programme of landscape restoration will be required in relation to the cable route.

Public Rights of Way

1. The Councils require greater clarity on the PROWs affected by the projects and the

duration of the impacts

2. The Councils also require the submission of details in relation to the management measures, alternative routes and mitigation for the PROW network to the agreed pre-DCO.

Land Use

The Councils want to stress the importance of soil management to ensure that the quality of the soil stockpiled along the cable routes does not become unnecessarily degraded and identify the need for a Soil Management Plan.

Aldringham Court (Grade II listed building)

1. The Councils express concerns in relation to the impact of the cable routes on Aldringham Court and recommended that SPR complete the settings assessment in order to fully understand the impacts of the projects on the significance of this listed building.
2. SPR should provide further details in relation to the positioning of the cable route corridor to the south of Aldringham Court.

Flood Risk

1. SPR will need to provide full details of how surface water will be managed along the cable corridor, including how the risk of sediment laden surface water runoff will be managed.
2. SPR has only assessed the impacts of the projects on the main rivers, the Councils require SPR to fully assess the impacts of the developments on the Ordinary Watercourses as well.

Archaeology

1. The remaining areas which have not yet been subject of a geophysical survey should be surveyed at the earliest possible opportunity, pre submission of the DCOs.
2. A full systematic earthwork survey is required for all areas along the cable route where earthworks have been identified pre submission of the DCOs. A key area along the cable routes of known earthworks and upstanding military remains is the area to the south east of Halfway Cottages.
3. Archaeological assessments should include all areas within the onshore development area and archaeology should be considered within other management plans.
4. The cumulative impacts of the projects with other projects should be re-assessed.
5. Trial trenching should as a minimum be undertaken along the cable routes at the

Aldringham crossing point and adjacent parcels of land and the section of the cable corridor north of Friston which leads to the substation site.

Onshore Ecology

1. It is recommended that SPR provide further detail in relation to the mitigation strategies proposed, of particular importance is the mitigation required for the SPA crossing and disturbance to existing ecological corridors and historically quiet environments.
2. SPR should provide greater information in relation to the impact of the associated infrastructure (for example CCS, parking areas, junction improvements, traffic movements) necessary by virtue of the projects on biodiversity.
3. The Councils recommend that SPR explore opportunities for mitigation which include both season and spatial limitations.
4. Further information is required in relation to the potential impact on wildlife of the creation of a wind tunnel by virtue of the cable route.
5. The Councils wish to see SPR make commitments to biodiversity net gain through enhancement projects.

Cable Route and Construction Consolidation Sites

The Councils request SPR carefully consider the final routing of the cables and locations of the CCSs for both projects to ensure they are sensitively sited and designed to lessen the impact on the local community and environment.

SUBSTATION SITE

101. The site area for the substations chosen by SPR is on land immedately north of the village of Friston. As highlighted previously within this response and during previous rounds of consultation on the projects, the Councils have expressed serious concerns in relation this site choice.

Landscape and Visual Impact Assessment (LVIA)

102. The approach to, and layout and scope of the assessments appear to be robust covering systematically, and reflecting conversations with SPR to date, the assessment of the cumulative impact of EA1N, EA2 and National Grid substations on;
    a) Landscape Character
    b) Visual effects
    c) Visual effects on settlements
    d) Cumulative effects

103. The landscape baseline is appropriately established. The significance of effect is based on the assigned values of receptor sensitivity and magnitude of change. The methodology considers duration separately.

104. The Councils have carefully considered the assessments and identified a number of key issues:

1) Cumulative impact of EA1N, EA2 and National Grid substations - Tables 29.13 identify that:
   - The residents of Friston would receive significant permanent adverse cumulative effects from a combination of the EA1N, EA2 and National Grid substations.
   - From viewpoints 8 and 9 residents would receive significant permanent adverse impacts.
   - That within the locality there would be a permanent adverse impact on the character of the landscape.

2) Sensitivity of the receiving landscape and visual receptors

   The Councils are not satisfied that the various assessments adequately recognise the sensitivity and value of the receiving landscape outside the AONB. The definitions and evaluation of Susceptibility Value and Sensitivity of the receiving landscape and other receptors require a systematic review and discussion between the Councils and SPR to ensure that the findings of the final LVIAs submitted are robust.

3) Dependency of the mitigation of significant effects through the planting and design of connection site:

   According to the assessments, the mitigation of visual impacts is dependent on the effective and timely delivery of mitigation planting. No more than an initial outline scheme of mitigation has been presented to date, although even at this stage, the Councils are concerned that some of the indicated tree species are unsuited to the prevailing landscape character, and are not native species despite the description as such in the documentation.

   Furthermore, the congested nature of the site (buildings and cable wayleaves) will lead to potentially competing interests of visual amenity, historic landscape/assets and the need for Sustainable Drainage System, suggest that delivering an effective scheme of mitigation will be extremely challenging and may not be possible in an effective and meaningful way. The Councils are concerned that the various competing interests for the mitigation of the wider range of adverse effects (noise,

landscape harm, visual impact, drainage, heritage) could potentially be in conflict with each other and therefore at risk of being compromised in their effectiveness.

Although visualisation of the Gas Insulated Substation (GIS) option for the National Grid substation is shown, the implications of this option for the design mitigation and consequent impacts of the scheme should be explored.

The Councils note the conclusions of both Chapter 29s and agrees that the presence of the onshore windfarm infrastructure will have significant visual effects on views experienced by people in the local area near Friston, but do not necessarily agree that these will become 'not significant' 15 years post planting, as this will very much depend on the rate of establishment and growth of new planting. SPR state (224) that landscape mitigation planting will be coming into maturity at 15 years post planting. The Councils consider that this claim is unreliable because newly planted trees at 15 years post planting cannot be considered to be mature. At best they can only be regarded as maturing.

East Suffolk can suffer notably dry summers and growth rates of new tree planting that can be reliably predicted in wetter parts of the country, cannot necessarily be relied on in East Suffolk. The Councils consider that the conclusion of 'not significant' at 15 years post planting in this respect cannot be assured.

105. The LVIAs for each project do not include an assessment of the infrastructure associated with the connection of the National Grid substation to the overhead lines which will include up to four sealing end compounds and potentially one additional pylon associated with the overhead line realignment works.

106. NPS EN-1 (5.9.17) states that the Examining Authority should 'consider whether the project has been designed carefully, taking account of environmental effects on the landscape and siting, operational and other relevant constraints, to minimise harm to the landscape, including by reasonable mitigation'. The Councils are of the view that this has not been achieved and the proposals result in significant permanent adverse effects visually and on the character of the landscape.

<u>Heritage Assets – Listed Buildings</u>

107. A settings assessment was undertaken as part of the Onshore Archaeology and Cultural Heritage DBA. This document identifies those heritage assets where there is potential for heritage significance to be materially affected by change in their settings due to the proposed projects. This assessment was undertaken in accordance with Historic England's guidance: "The Setting of Heritage Assets" (2017). This assessment

has identified those assets that require further consideration. The list of assets that have been identified as requiring further assessment at the ES stage match those that the Councils highlighted as likely to be harmed by the development at the Stage 3.5 consultation. Friston Mill, is Grade II* listed and one of the tallest buildings in the village, has been scoped out of further investigation at this stage. Given the significance of this building and its landmark status within the village, the Councils believe that this should be included on the list of assets for further consideration.

108. The assessment that has been undertaken so far has covered Step 1 of Historic England's guidance and has mostly addressed Step 2, which require the identification of the heritage assets and their settings which are affected and an assessment of the degree in which the settings and views make a contribution to the significance of the asset. SPR has not yet fully addressed Step 3 (the effects of the proposed developments on the significance or on the ability to appreciate it) or beyond this stage. While it is recognised that the preferred layout is not yet fixed, there are firm ideas about the footprints and maximum heights involved at the site of the substations. It would therefore be possible to make an assessment of harm based on the worst case scenario which would allow a more detailed discussion about mitigation to be had at an earlier stage. Without a full assessment of harm there is a limit to the comments the Councils can provide.

109. The impacts arising during construction/decommissioning would be temporary and of sufficient short duration that they would be unlikely to give rise to material harm to above ground heritage assets. The harmful impacts would primarily occur during the operational phases and these impacts would be very long term if not permanent.

110. While a full assessment of the level of harm has not been provided by SPR, the Councils have significant concerns about the harm the projects will cause to a number of listed buildings which sit in close proximity to the onshore substation development area. More detailed comments in relation to the individual buildings have been provided within Appendix B. It is our view that the projects are likely to result in harm to Church of St Mary, Little Moor Farm, Woodside Farmhouse, High House Farm and Friston House. More detailed comments will be able to be provided once the impact assessment is completed and made available.

111. In summary the Councils have concerns that a full assessment of the heritage assets has not been completed at this stage and have significant concerns in relation to the impact of the projects on the listed buildings surrounding the substation site and the ability for the harm to be successfully mitigated.

112. Section 66 of the Planning (Listed Buildings and Conservation Areas) Act (LBCA) 1990 imposes a duty to have special regard to the desirability of preserving listed buildings or their settings or any features of special architectural or historic interest which they possess. NPS EN-1 (5.8.14) states that there is a presumption in favour of the conservation of designated heritage assets. This is also reiterated within the National Planning Policy Framework 2019. NPS EN-1 (5.8.18) sets out that when considering applications which do not contribute positively or better reveal the significance of the asset; the decision maker should 'weigh any negative effects against the wider benefits of the application. The greater the negative impact on the significance of the designated heritage asset, the greater the benefits that will be needed to justify approval'.

Heritage Assets - Archaeology

113. The general comments contained within the cable route section of this report in relation to archaeology are applicable. In relation to specific comments, the Councils are of the view the substation site, including all associated construction and infrastructure areas, should be the subject of trial trenching and metal detecting pre-consent, given flexibility in the design is likely to be limited. Archaeological site KND 009 (a probable medieval chapel site, with a high potential for human remains) remains in the red line boundary for the substation area. This site could be of national significance and therefore early and full archaeological assessment is essential if any works are planned on or in the immediate vicinity of this site as part of the schemes. This site has not yet been included within the geophysical survey, full pre-DCO trial trenching and metal detecting is also required if this site is proposed to remain within the red line boundary going forward. The Councils would be concerned about any works in this area if the presence of a chapel site or cemetery is demonstrated.

114. Appendix C includes further detailed comments in relation to archaeology and the different documents contained within the PIERs.

Operational Noise

115. Chapters 25 of the Phase 4 consultation indicate that operational noise impact from the EA1N and EA2 substations and National Grid infrastructure will be assessed using guidance and methodology contained in BS 4142:2014 (Rating and Assessing Industrial and Commercial Sound). This guidance describes a method of determining the level of noise of an industrial source and assessing it against the existing background noise level. The rating includes correction penalties for; intermittent noise, impulsive noise and tonal noise sources and this approach and methodology was agreed.

116. The consultation documents then however go on to present a separate noise criterion based on the World Health Organisation (WHO) 'Guidance for Community Noise' (1999). These health-based noise limit guidelines were established following research into the exposure of excess noise on populations and represent the upper limits where noise may impact health within dwellings and protect the majority of people from being moderately annoyed during the day from outdoor sound. In particular, the guidelines have set an internal limit value where noise may affect sleep disturbance and an external limit relating to annoyance. This guidance has been of particular relevance for countries which had no national standards and has been widely used as a critical limit to protect against sleep disturbance within bedrooms. The external outdoor sound limit has been widely used as a maximum desirable level for new development. This guidance does not make any reference to the background noise levels within an area and as such the (WHO) standard is more appropriate for setting an upper noise limit within areas where the background levels are already high and human health may be impacted by increased noise from new development. This guidance is therefore not aimed at protecting residential amenity and the Councils' opinion is it is not considered an appropriate methodology for setting levels within tranquil areas.

117. At no stage has the WHO 'Guidance for Community Noise' (1999) been agreed by the Councils to be used as the methodology and standard for assessing the operational noise emissions from EA1N and EA2 substations and the National Grid infrastructure. Whilst the standard may have been agreed for EA1 and EA3 substations which are located within Mid Suffolk District Council area, these limits are not considered appropriate for this development within the parish of Friston, which is in a tranquil location. BS 4142:2014 is the more appropriate methodology and criterion taking into account existing background noise levels and offering a better standard of noise protection for residential amenity in an agricultural area which will be subjected to industrial noise.

118. Tables 25.20 within Chapters 25 of the Phase 4 consultation is misleading as it suggests the background noise level (LA90) equates to 35 dB (expressed as LAeq 15 min) and then utilises this ambient noise level as a 'rating level' for both day and night time intervals at noise sensitive receptors (NSRs). This does not accord with noise assessment criteria previously agreed, this being BS 4142:2014.

119. The methodology for assessing operational plant noise within the consultation again utilises 'SoundPLAN', a noise modelling software incorporating; intervening ground cover, topography and proposed building elevation layout to predict the spread of noise from fixed plant and its impact at the nearest noise sensitive receptors. It is understood that the model represents both EA1N and EA2 substations in combination

and that the National Grid infrastructure substation does not add to this prediction. This will need further modification should it be determined that the combination of the three substations will be of greater magnitude or impose tonal noise which is currently not believed to be significant. At present it has not been established whether the National Grid substation will be constructed as an "Air Insulated Switchgear Substation (AIS)" or as a "Gas Insulated Switchgear Substation (GIS)". More components are located within the building of a GIS substation and presumably this will affect the modelling and operational noise characteristics of the site. Full details of both options will be required should this decision be left to the date of ES or beyond.

120. Whilst the reports summarise the operational noise impact utilising the WHO 35 dBA criteria, it does also contain a BS 4142:2014 noise assessment and the result are presented within the first seven columns of Tables 25.36. The noise level results indicate that in all but two receptor locations the 'Predicted Rating Noise Level' at night will be lower than the 'Measured Background Noise Level'. The two receptor locations which are predicted to be impacted by noise are SSR2 and SSR5, although the latter is of negligible magnitude. The consultation has previously specified that noise reduction technology and design of the substations offer a range of mitigation measures which in combination will enable the operational noise to meet the desired noise limits. In the circumstances it appears that some additional noise mitigation will be required to protect these two receptor locations to an agreed standard.

121. It is reported that diesel generators and circuit breakers will be present on site in the event of a systems failure, whilst these will only be activated for short time periods for maintenance purposes and in an event of an emergency, further details of the likely noise output of each should be provided within the ES for each project so that impact from these can be assessed at nearby receptors.

122. Some modification to the existing National Grid overhead power line structures may also be required and should this be likely to introduce any additional power line tonal noise to nearby receptors, then this should be assessed within each ES.

123. NPS EN-1 (5.11.9) stated that the decision maker should not granted consent unless it is satisfied the proposals will meet the following aims:
    - Avoid significant adverse impacts on health and quality of life;
    - Mitigate and minimise adverse impacts on health and quality of life; and
    - Where possible, contribute to the improvement of health and quality of life.

124. The National Planning Policy Framework 2019 specifically states that policies and decisions should ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health,

living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so, policies and decisions should:

- mitigate and reduce to a minimum potential adverse noise impacts resulting from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;
- identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value.

125. It is therefore an essential element that these developments can be operated in this location without presenting a significant adverse impact on the health and quality of life of the local community or to the existing tranquil environment. Based on the current information provided the Councils are concerned that these policy aims are not being met.

Land Use

126. The land use within the onshore development area is predominantly agricultural, with the majority comprising arable land with a small amount of grazing pastures. Within the development area there are also some non-agricultural areas which comprise woodland and minor waterbodies etc. The Agricultural Land Classification is used to classify agricultural land in England and Wales according to the quality and versatility of the soil, Grade 1 representing the best quality through to Grade 5 which is of the poorest quality. Although the proposed onshore development area covers a combination of Grade 2, Grade 3 and Grade 4 agricultural land, the onshore substations for EA1N and EA2 sit almost entirely on Grade 2 with the National Grid substation sitting across Grade 2 and 3. Although only a small percentage of land within the onshore development area falls within Grade 2, the land which does fall within this classification will be utilised to accommodate the permanent substation infrastructure and therefore comprises the only areas which would not be reinstated after construction. The necessity for extensive planting by virtue of the site selection will also involve the utilisation of greater areas of Grade 2 land.

127. The Councils are concerned about the loss and sterilisation of good quality agricultural land in order to accommodate the substations for the projects at Friston. NPS EN-1 states that applicants should seek to minimise impacts on the best and most versatile agricultural land (defined as land in grade 1, 2 and 3a of the Agricultural Land Classification) and preferably use land in areas of poorer quality (grades 3b, 4 and 5) except where this would be inconsistent with other sustainability considerations.

Water Resources and Flood Risk

128. The PEIRs fail to assess impacts to watercourses which are not designated as Water Framework Directive (WFD) Water Bodies. The Councils are also concerned that the Main River through Friston has not been adequately assessed within the consultation documents. The 'Friston Watercourse' that is assessed through the PEIRs, is not the Main River that runs directly through Friston. It is in fact, the WFD section of the same river which is approximately 2.5km downstream of Friston. This is not clearly stated anywhere. We are concerned that local residents reading this information may not be aware of this and could therefore be misled by the information presented.

129. The magnitude (both prior to and following mitigation), significance and residual impacts have therefore not been assessed for the Main River through Friston as a Receptor in its own right due to the residential setting, thus high sensitivity. This is a significant shortcoming of the PEIRs.

130. The Councils welcome the proposal to produce CMS for construction activities. SPR has provided some information identifying measures to be included within the CMS, further comments on this have been provided in Appendix D under the 'Water Resource and Flood Risk' section.

131. The PEIRs (57), incorrectly identify the onshore substations as being within the Hundred River catchment. They are in fact located in the Friston Watercourse catchment, as shown in Figure 20.1. The same paragraph quotes the Friston Watercourse catchment as approximately 6km^2. As stated earlier within this section, the Main River through Friston has not been considered as a receptor within the consultation documents.

132. The catchment contributing to the Main River through Friston has been estimated as 1.5km2, this is based on the approach set out in Appendix D. Within the appendix the cumulative construction areas in the estimated catchment of the Main River through Friston have been estimated and considered against the estimated catchment to identify a maximum area of disturbed ground of 21%. This figure is far greater than the 3.8% identified within the PEIRs. This demonstrates that the Main River in Friston is at a much higher risk from silt laden run-off than is presented in the PEIRs. Without adequate assessment and mitigation, this could result in an increase in surface water flood risk in Friston. There are also pollution impacts that require consideration.

133. Measures to manage surface water run off will need to be in place prior to any construction works, including grading. If grading is completed prior to the installation

of surface water drainage infrastructure there's an increased risk of sediment laden runoff entering the downstream watercourse.

134. The National Grid substation and CCS is located directly on multiple surface water flow paths. There has been no assessment regarding how the use of either of these sites during the construction phases will impact surface water flow paths. There is a significant potential for surface water flow paths to be obstructed or diverted, resulting in a potential increase in off site flood risk. There is also a potential on site flood risk that needs to be assessed. Furthermore, the placement of stockpiles along the route of these flow paths will increase the probability of sediment being transferred down stream via. the surface water flow path. This also has the potential to increase surface water flood risk in Friston.

Water Resources and Flood Risk (Operation)

135. There is a significant opportunity to reduce surface water flood risk in Friston as part of these projects. At this stage, there are no details to suggest that the projects intend to provide this betterment. The Councils strongly recommend that SPR consider this option and begin discussions with Suffolk County Council as Lead Local Flood Authority, the Environment Agency and local stakeholders to discuss potential options for betterment in terms of surface water flood risk.

136. There is no adequate assessment of the proposed substations (EA1N, EA2 or National Grid) interaction with the existing surface water flow paths north of Friston. The Flood Risk Assessment (FRA) briefly assesses surface water flood risk (paragraphs 113-116). SPR (113) incorrectly state the substations are located outside the extent of the 1:1000 year surface water flooding event. The only surface water flood map provided by SPR is to a scale of 1:25,000. Upon further investigation, it is evident that the National Grid substation is located directly on a 1:30, 1:100 & 1:1000 surface water flow path. A map has been drawn to illustrate this and attached in Appendix D. The proposed 3m bunding directly north and west of the National Grid substation also intercepts surface water flow paths. There has been no assessment on the redirection of flows and the potential impacts this could have on flood risk in Friston.

137. It is unclear whether the proposed surface water drainage strategy will utilise the Qbar or Long Term Storage method of discharge. This aspect is vital in understanding any potential betterment afforded to Friston in terms of surface water flood risk. It will also have an impact on the amount of space required for SuDS.

138. It is also unclear what storm event the surface water system is being designed to. Paragraph 154 of the FRA refers to 1:100 whilst paragraph 413 of Chapters 6 refers to

1:200. A climate change allowance of 20% has been used for the substation sites based on an operational life of 25 years. Unless there is a clear commitment to all impermeable areas being removed by 2069 then SuDS must be designed with a climate change allowance of 40%, as per national guidance.

139. It is unclear how the proposed developments intend to comply with NPS EN-1, paragraph 5.7.20, which states "Site layout and surface water drainage systems should cope with events that exceed the design capacity of the system, so that excess water can be safely stored on or conveyed from the site without adverse impacts". It is apparent that any exceedance events would have an adverse impact on Friston.

140. The Councils acknowledge the intention to combine SuDS with ecological and landscape mitigation and encourage this approach.

141. As previously highlighted the long term impacts fail to consider the impacts to the Main River through Friston only focusing on the WFD impacts on the Main River 2.5km away. The estimated operational area utilised in the estimated catchment of the Main River through Friston is 10%, the calculation used to find this figure is set out in Appendix D. This is far in excess of the 1.6% stated by SPR, this demonstrates that the information contained in the PEIRs fail to assess the increased surface water flood risk to Friston.

142. The maintenance arrangement for any SuDS installed will be a key aspect in ensuring that they do not increase flood risk in Friston. No indication is given as to who would be responsible for these SuDS in perpetuity.

143. NPS EN-1 sets out the minimum requirements for FRAs. In Appendix D under the 'Flood Risk' heading, the criteria from the policy document have been listed and using a red, amber and green system, have been scored based on whether the Councils are of the view that the information submitted as complied with the requirement. The shortcomings which have been identified relate to the failure of the Flood Risk Assessment to adequately assess surface water flood risk in Friston.

144. The Councils are concerned about the gaps in the information provided within the consultation documents and wish to see SPR explore the opportunity to provide betterment for the community of Friston by reducing the surface water flood risk.

<u>Onshore Ecology</u>

145. The Councils consider the PEIRs down play the harm or disturbance to biodiversity. The conclusions of the PEIRs rely on mitigation strategies to be adopted and the

Councils have not yet seen sufficient information on these. Amongst other things (such as impacts upon common birds), the Councils would like to understand what information is known and available in relation to the bats movements between and alongside the woods where the substations are proposed to be built.

Master Planning the Layout and Design of the Onshore Substations

146. The Councils note the preliminary masterplan and design proposals within the PEIRs. It is expected that there will be considerable and ongoing discussions with SPR prior to submission of the projects for DCO in order to refine the design and layout of the proposals.

147. The masterplan as it currently stands does not adequately address the Councils' concerns. A significant challenge for SPR will be in dealing with the competing demands placed on the design of the scheme and trying to accommodate these demands within such a constrained site. For example the indicative landscape mitigation plan for the substations shows significant amounts of new woodland screening that appears to have been designed with no regard to the setting of the heritage assets or the impact on the historic landscape features. Such 'mitigation' risks adding to the harm of the heritage assets by further changing their relationship with the surrounding landscape.

148. The planting proposals need to be reflective of the prevailing surrounding landscape pattern and the choice of planting should reflect the landscape character and growing conditions. The current scheme appears to focus solely on the screening function of the planting and does not take into account the existing landscape pattern.

149. It is essential that the masterplan takes into account at an early stage any constraints which will affect the planting options. For example how the drainage routes and SuDs basins will compromise the optimum planting options. It is not clear from the masterplan how the different constraints on the site have been factored into the overall design.

150. The levels across the site need to be fully understood in order to understand the effectiveness of the planting proposals as screening. The masterplan does not include any details in relation to the levels of the site, without this information proper assessment of the masterplan is not possible.

151. It is important that a comprehensive scheme of offsite planting is produced. Offsite planting can deliver more rapid and timely mitigation whilst the large onsite planting scheme is developing. Key locations for hedgerow reinforcement and offsite planting

should be identified and included in either the applications or a legal agreement with the relevant parties. It is essential that the mechanism to secure and deliver offsite planting is considered up front in the process and not left as an afterthought.

152. The masterplan has been designed based on both EA1N and EA2 projects being approved and the use of an AIS National Grid substation. Although the visualisations demonstrate a GIS option, the implications for this option for the design of the mitigation and consequent impacts on the schemes should be explored. The utilisation of GIS technology could allow for greater space to be made available for mitigation. Based on the current information available the Councils consider there are visual benefits in relation to the delivery of a GIS option when compared to an AIS option. The Councils also feel that as the projects are expected to stand completely independent of one other, each project should have a masterplan design in place in the event only one project is granted a DCO or implemented and the other is not.

153. It is also important that the masterplan takes into consideration the two potential National Grid Venture projects. At present the possible extensions to the National Grid substation in order to accommodate the National Grid Venture substation connections would involve the land currently shown to be utilised as a SuDs pond. Consideration would also need to be given to how additional cable routes and extensions to the National Grid substation would affect landscaping proposals.

154. The Councils desire for the masterplan to deliver more than just planting with a sole screening function. The site is surrounded by public footpaths, hosts wildlife and is currently enjoyed by the surrounding communities and therefore the masterplan should deliver significant gains for biodiversity and public amenity. There are opportunities to deliver a masterplan which provides enhanced public access.

155. The development of the substation site is a fundamental component of the projects and is a prerequisite of the criteria for "good design" set out in the NPS EN-1. Furthermore, the renewables specific NPS EN-3 goes further to state that "proposals for renewable energy infrastructure should demonstrate good design in respect of landscape and visual amenity, and in the design of the project to mitigate impacts such as noise and effects on ecology." Therefore, the Councils consider that the following issues need to be addressed:

    1. SPR should work closely with the Councils and other stakeholders regarding the design and layout of the site to accommodate their proposals.
    2. The proposals must be as sensitive to place as possible with visual impacts minimised as far as possible, by the use of innovative and appropriate design, shape, layout,

coloration and finishes, given the extent and magnitude of the visual impacts in this rural location.

3. Appropriate building design and materials should be actively sought as part of the procurement process. The design should be such that it minimises visual impact and blends with the background and foreground as far as possible, with recessive colouring, and use of innovative solutions to further soften and moderate the impact.
4. It is essential that the size of the proposals should be minimised. The footprint of the substations and any ancillary buildings must be minimised to reduce the perceived bulk of the developments. The impact of low level visual clutter should be effectively minimised through design of layout, and landscaping. The amalgamation of any ancillary buildings should be fully explored. While it is accepted that the final design of the buildings will apply the use of Rochdale principles and thus be dealt with through Requirements, measures should be incorporated into the DCOs that ensure the design issues are reasonably prioritized over cost considerations.
5. Landscaping to minimise the visual intrusion, and to enhance local landscape character and biodiversity must be considered hand-in-hand with building design and layout of ancillary structures.
6. Design should have regard to the potential for embedded ecological mitigation and enhancement (such as green & brown roofs, green walls, appropriate vegetation planting and bird nesting habitat). The design should also have regard to the need to minimise any adverse impacts on species and habitats, with particular attention to lighting, large areas of glass and baffling of noise sources.
7. The design of the buildings and the layout of the site will need to incorporate SuDs. The SuDs should enhance the landscape and ecology of the site and surrounding area.
8. Opportunity should be provided through development of the final design and landscaping proposals to engage with, and seek feedback from, local communities who will be directly affected by the substations.
9. The substations should be an exemplar in terms of innovative renewable infrastructure substation design. This has shown to date in working constructively with the Councils to minimise the onshore impacts of these nationally significant infrastructure projects.
10. The final design should be subject to design review either via the Design Council or Shape East.

156. The masterplan as it currently stands is inadequate and does not allay the Councils' concerns that the EA1N, EA2 and National Grid substations will cause significant visual effects on views experienced by people in the local area near Friston. The Councils are also concerned that the mitigation currently proposed as part of the masterplan has

the potential to have a detrimental impact on the setting and therefore significance of the surrounding heritage assets.

157. <u>Councils position on the substation site</u>

In summary, based on the information available, the Councils have concerns in relation to the onshore substation infrastructure associated with both EA1N and EA2 and the impacts on landscape and visual amenity, heritage assets, noise, land use and flood risk which when collectively taken together have a significant adverse impact in particular in respect of the sensitivity of the receiving landscape and visual receptors. The mitigation proposals so far provided by SPR are not adequate and do not satisfactorily address the Councils concerns, especially as there is a high dependency for mitigation on planting and design. The congested nature of the site will mean that producing an effective landscape strategy will be challenging.

The Councils therefore object to the overall impact of the onshore substations for both projects individually and cumulatively on the village and environs of Friston. The Councils believe based on the current information available, in relation to the planning balance set out in NPS-EN-1, the adverse impacts highlighted in this section of the response outweigh the benefits of the schemes.

Notwithstanding the Councils position in relation to the onshore infrastructure the Councils wish to continue to work with SPR and have therefore identified several areas of further work below.

<u>LVIA</u>

1. The Councils recommend SPR systematically review the definitions and evaluations of susceptibility value and sensitivity of the receiving landscape and other receptors in discussion with the Councils to ensure the findings of the LVIAs are robust.
2. SPR should provide further details of the GIS National Grid substation option detailing the implications for the design of the mitigation.
3. The Councils request SPR re-assess the growth rates identified for the mitigation planting and provide justification for the claims.
4. Insufficient information has been provided by SPR in relation to the connection infrastructure necessary to connect the National Grid substation to the overhead lines. The separation of the overhead lines will potentially require one additional pylon. The Councils request SPR provides further details of this infrastructure and take the view that all measures should be taken so that an additional pylon should be avoided and would require clear justification if this were not the case.

Listed Buildings

The Councils recommend that SPR complete the settings assessment in order to fully understand the impact of the projects on the significance of the listed buildings. The assessment should include an assessment on the impact of the projects on Friston Mill.

Archaeology

1. All of the onshore substation development area should be subject to trial trenching and metal detecting.
2. Full archaeological assessment of archaeological site KND 009 is essential if any works are planned on or in the immediate vicinity of the site.

Operational Noise

1. The use of the 35dB is unacceptable, SPR should agree with the Councils an acceptable noise limit and use the BS 4142:2014 assessment results to identify appropriate mitigation to prevent impact on sensitive receptors. The noise limit should also consider the prevention of background noise level creep.
2. The noise assessments should fully consider the implications of the use of an AIS or GIS National Grid substation.
3. Further details are required in relation to the equipment needed at the substations in the event of a systems failure. Details of the noise output and an assessment of the likely noise impacts at nearby receptors will be necessary.
4. If the modifications to the overhead powerline structures is likely to introduce additional power line tonal noise to nearby receptors this should also be assessed by SPR.

Land Use

In summary the Councils are concerned about the loss and sterilisation of good quality agricultural land in order for the substations for the projects to be accommodated.

Water Resources and Flood Risk - Construction

1. SPR need to assess the impacts of the projects on the Main River in Friston which has not yet been undertaken.
2. SPR has incorrectly identified the onshore substations as being within the Hundred River catchment, they are in the Friston watercourse catchment.
3. Further details are required in relation to the drainage strategy for the CCSs.

Water Resources and Flood Risk – Operation

1. The Councils recommend that SPR fully explore the potential to provide betterment for the village of Friston by reducing the surface water flood risk.
2. SPR need to adequately assess the interaction between the projects and the existing surface water flow paths north of Friston.
3. SPR need to clarify the method of discharge for the surface water drainage strategy and identify what storm event the system will be designed to in addition to utilising the appropriate climate change allowance.
4. SPR need to state how the drainage system will be designed to comply with NPS EN-1 paragraph 5.7.20.
5. SPR must provide a comprehensive assessment of the flood risk to Friston including details of potential mitigation measures and residual risks.
6. SPR should seek to outline the maintenance arrangements and responsibilities for any SuDs installed.

Ecology

The Councils would like further information regarding bat movements and other potential ecological receptors such as common birds at the substation site to fully understand the impacts of the projects.

Masterplan

SPR should provide a clear masterplan to demonstrate how sufficient landscaping can be provided to mitigate the visual impacts of the proposed substations alongside accommodating any necessary noise mitigation, requirements for dealing with flood risk, relocation (if necessary) of rights of way, avoidance of key archaeological features, while considering any opportunities for wider public benefit. The masterplan should demonstrate that it would be robust in the event that further cable routes and extensions to the National Grid sub-station were required.

PROJECT WIDE TOPIC AREAS

Traffic and Transport

Offshore Construction – Transport Issues

158. SPR has stated that foundation components would be manufactured onshore and delivered to site as close to fully assembled as practical (6.5.4). This also applies to the turbines and scour prevention materials, cable protection, cables and ancillary

structures. Further clarity is needed in relation to this claim and whether the consequential impacts on transport have been fully assessed.

159. The PEIRs state that it is possible that wind turbines could be fully assembled and commissioned onshore and transported to site as a single unit installation (6.5.15.2.3). It is understood that this method is being explored by the wind industry but SPR considers it is not possible to commit to this method as it is not technically proven at this stage. The Councils request clarity is provided by SPR on whether the impacts of the complete assembly of wind turbines have been included in the PEIRs.

Onshore Construction – Materials and Employee Numbers

160. SPR has provided considerable data on the quantities of materials required for each project although the sources of such material have not been defined. A worst-case scenario has been assessed with 100% of Heavy Goods Vehicle (HGV) traffic traveling either north or 100% south of the A12/A1094 junction. The assessments within the PEIRs indicate a peak of 254 HGV movements and approximately 50,000 HGV movements in total associated with the proposals and a peak workforce of approximately 250 employees and approximately 85,000 employee movements across the 36 months (which represents the most contracted build period). These figures relate to one project alone. When looking at the profile of two way HGV movements and employee numbers by month, the variation in the impacts is highlighted, there is a spike at the end of the programme and the peaks for the two types of movement are not anticipated to occur during the same months.

Transport Assessment Methodology, Trip Distribution and Traffic Data

161. The Councils have some concerns in relation to the assessment methods and threshold selection utilised within the Transport Assessments. A GEART methodology has been adopted during the preparation of the Transport Assessments to identify locations where impacts would occur but the Councils would not expect this method to be used as part of the DCO submissions and would suggest guidance such as WEB Transport Appraisal Guidance (WEBTAG). The Councils are also concerned that the severance and pedestrian/cycle amenity assessments fail to consider the facilities that are in place at the specific locations.

162. In relation to the traffic data the employee car share ratio of 1.5 put forward by SPR is not accepted by the Councils. SPR also make assumptions based on worker origins but the effects of Sizewell C do not appear to have been considered. It is also assumed the construction workforce shift patterns will overlap with the PM peak hour but evidence from the EA1 project should be provided to identify whether the shift patterns overlap

with the AM peak hour. If this is shown to occur further assessment would be necessary. Further clarification is also required in relation to the peak daily movements identified by SPR to understand whether this is an average, and if so how much variance from the average exists and what the absolute peak is. Finally the Councils wish for SPR to identify what methods would be utilised to control and monitor the traffic movements to ensure they compliance with the data provided.

163. Further information in relation to the Councils concerns regarding assessment methodology and threshold selection, trip distribution and traffic data utilised in the transport and traffic assessments has been detailed in Appendix E.

Construction Accesses

164. The site covers a large area of land on the east coast of Suffolk near to Leiston, Thorpeness and Friston, and as a result includes eight accesses with an additional four crossing points. Gaining access from the existing public highway is acceptable in principle to the Councils from a highway safety perspective following experience from similar projects such as EA1. The Councils have however expressed concerns in relation to the impact of the positioning of access 7 on the setting of Aldringham Court and protected woodland which has been detailed previously under the heading 'Aldringham Court'. For all of the proposed access arrangements, the Councils will require detailed design, swept path assessment and a road safety audit. The use of Design Manual for Roads and Bridges (DMRB) rather than Manual for Streets design guidance is considered by the Councils to be appropriate for the proposed access locations.

165. No consideration appears to have been given by SPR for how pedestrians or cyclists will access the site, including segregated facilities and cycle parking. The Councils would expect consideration to be undertaken to support safe travel by these modes as indicated as appropriate by NPS–EN1 and the NPPF.

166. For Access 2 off Sizewell Gap Road, due consideration should be given towards the proposals for a cycleway associated with Sizewell C at this location and how the proposed footway could tie-in with this facility.

167. The PEIRs indicate that an outline Construction Traffic Management Plan (CTMP) would be submitted as part of the DCOs and would include details of the measures to be adopted to ensure that traffic demand forecasts are not exceeded, mitigation measures and Travel Plan measures, and the Councils would expect greater clarity on how the proposals will support sustainable transport including through protection of and improvements to the Public Rights of Way network.

Traffic and Transport Impacts

Construction Materials Impacts

168. Although details of the sources of materials are not known at this stage the Councils accept that by assessing HGV movements in terms of 100% arriving from the north or south of the A12/A1094 junction is robust with the exception of the impact of such traffic on the junctions between Saxmundham and Lowestoft (i.e. A12/A144, A12/A1095, A12/A145).

Traffic Impacts

169. A number of locations are included where daily traffic impacts have been identified, as set out in Tables 26.22. The increase in vehicles varies between 1% and 10%, whilst the increase in HGVs ranges between 0% and 142%. Clearly the exact effect of any increase in traffic impact is dependent on local characteristics and sensitivities. A number of locations are included where peak hour traffic impacts have been identified, as set out in Tables 26.24. There are noticeable traffic impacts at the five junctions identified, with peak hour impacts at A12/A1094 of 107 vehicles. Clarification is sought as to why the impacts are greater at A14 Junction 55 than A14 Junction 58 (Seven Hills roundabout), which is nearer to the proposal site. Given the impacts at A14 Junction 58, there are clearly a number of other junctions along the A14 corridor that are likely to be detrimentally impacted by the proposed developments, for which the projects do not include any mitigation. Further assessment should be undertaken of the impacts on the road network, including the A12 and the Leiston and Saxmundham town centre signal junctions.

170. There will be further stress on a number of junctions as a result of the proposed developments. The Councils expect SPR to mitigate the residual cumulative impacts of their developments, so as to not be determined a severe highway impact as indicated as the appropriate test within the NPPF.

171. A cumulative impact assessment has been included assuming that EA1N and EA2 are delivered at the same time, this has been assessed as Scenario 1. As there is significant crossover between the two projects the cumulative impact is not as simple as an assessment of EA1N and EA2. The Councils are concerned there is no cumulative impact assessment that includes traffic associated with Sizewell C.

172. An assessment has been undertaken of the delays associated with the 'the pilot vehicle strategy', this includes a very simplified assessment based on a pilot vehicle taking three minutes to travel the distance and two vehicles arriving on average every

minute. This results in an estimated average queue of six vehicles. Clearly given the potential for platooning and variation in arrival patterns, the maximum queue could be far more than the average. The assessment should identify the risks of the queue being greater than that indicated and what implications that has on road safety.

173. The Councils note the Suffolk Automatic Traffic Count data shows significant difference in HGVs numbers in Tables 26.11 compared to SPR Automatic Traffic Count and Suffolk County Council Manual Classified Turning Counts; this is due to differing classification of HGVs. In Tables 26.12 Link Based Sensitive Receptors the Councils consider there are a small number of errors or omissions:
    - Link 3: For clarity include Stratford St Andrew (high sensitivity)
    - Link 4c: For A12 read B1122
    - Link 6b: Church Common not a village but part of Snape

    The above issues should be addressed within the DCO submissions.

Abnormal Indivisible Loads (AILs) Impacts

174. Paragraph 26.4.3.1.5 implies that there would be two deliveries routes for most AILs required as part of the construction programme:
    - Option 1: Lowestoft. This is Highways England's preferred route. Due to restrictions, unloading would need to occur on the southern side of the lake. However, there is currently a risk that long-term access cannot be secured.
    - Option 2: Felixstowe.
175. It is noted that AILs have been recently landed at Ipswich. Further work is still required on both routes including detailed structural assessment. The AIL study (appendix 26.01) has identified that although abnormal loads could come from either Felixstowe or Lowestoft, Network Rail has advised that a rail bridge over the A1094 should be avoided. This will result in all AILs regardless of origin travelling via the B1122 from Yoxford and passing through Leiston along the B1069 to the junction with the A1094 where localised widening is required. From this point the vehicle would then travel along the A1094 and B1121 through Friston to access the onshore substation sites over the new access road. It is presumed but not evidenced that this will remain the route for AILs required for future maintenance or replacement.

176. The Councils have significant concerns regarding the route from Felixstowe as it passes through Stratford St Andrew, Farnham, Yoxford, Leiston, Knodishall and Friston with issues such as footbridge on Park Hill, Leiston (height), pinch point on Haylings Road, Leiston (width) and Farnham (geometry) are well known. SPR should note AILs should only be routed through Friston when use of the temporary haul road is not a practical option (i.e. due to weight).

177. For Heavy Loads the applicant is aware (26.5.1.4) that the A12 Lowestoft to Yoxford and the B1122/Lovers Lane/Sizewell Gap from Yoxford to Sizewell is the approved AIL route to Sizewell A and B identified by Highways England as a 'Heavy Route' (HR100). The Local Highway Authority indicated its preference for this route to be used for AILs associated with this project (R100 is designated as weight group D, equivalent to a trailer weight of 264 tonnes across 12 axels or 299 tonnes across 14 axels).

178. The Councils recommend that SPR engage with EDF Energy regarding their proposals at Sizewell C and what potential exists for use of their proposed Beach Landing Facility (BLF). This would significantly reduce the length of time that the AILs would spend on the road network, however it is recognised that this is:
    a) Outside of the applicant's control, and
    b) There may not be an appropriate route from the BLF to the substations.

    While work has recently been completed to protect the A12 at Blythburgh from tidal flooding both this area and that at Latimer Dam south of Kessingland remain susceptible to disruption from rising sea levels in the medium to long term.

Light Goods Vehicles (LGV) Impacts

179. There is little mention of LGVs within the assessments. Appendix 26.11 of the PEIRs contains information on the assessed number of HGV movements per month. For Landfall, Sections 1 to 4 and the substations there appears to be no reference to LGVs. The National Grid materials demands have been provided by National Grid and do include indicative LGV numbers. For the busiest quarter this equates to 2,540 LGVs, and assuming the same daily breakdown as the assessment method equates to an additional 38 movements on the average day.

180. The Councils request confirmation that LGVs have been included in the assessments, both for the National Grid works and for all of the other sites, especially the substations which it is expected would generate LGV trips. Further to this, the Councils have concerns about what variance there is in LGV trips per day i.e. that if the average day is 38 LGVs for the National Grid works, what is the peak day. It is worth noting that EDF Energy as part of their consultation for Sizewell C indicated that the busiest day for materials could be as much as twice the average day. Given the apparent omission of LGV trips the Councils have concerns that the peak impact has not been assessed and the traffic impacts are being underestimated.

Road Safety Impacts

181. The salient GEART guidance on road safety is as follows (26.4.3.1.3):

"Where a development is expected to produce a change in the character of traffic (e.g. HGV movements on rural roads), then data on existing accidents levels may not be sufficient. Professional judgement will be needed to assess the implications of local circumstances, or factors which may elevate or lessen the risk of accidents, e.g. junction conflicts."

182. The GEART guidance is one method of analysing the impacts in terms of risks to receptors it is considered to be a coarse tool which does not allow for factors such as junction geometry, design guidance (e.g. visibility) and most importantly the changes in traffic and driver behaviour. While the Councils accept it as an initial stage of investigation at this stage more detailed assessment will be required as part of the Transport Assessment supporting the DCOs.

A12/A1094 Impacts

183. As set out within the consultation documents:

"A total of 17 collisions have been recorded at this junction during the study period, resulting in 16 slight injuries and one serious injury. Eleven of the collisions involved vehicles turning across the path of traffic on the A12; nine of these involved vehicles turning right into the A1094 from the A12, including the serious collision, with the remaining two collisions occurring as vehicles turned right out of the A1094. Six of the collisions were rear end shunt type collisions; three within the central reserve, and three on the A1094 approach to the A12."

184. Clearly the junction has a history of collisions, relating to right turning vehicle movements across the A12 and it is reasonable to assume that the proposed developments will further exacerbate these issues given the peak hour (9 HGVs and 64 cars) and daily (104 HGVs and 64 cars) increase of right turn movements from A12 south to the A1094 for one project.

Link Collision Rates and Impacts

185. It is evident from Tables 26.13 that the B1121 (links 5 and 7) has a collision rate that is higher than the national average for a comparable road type (26.5.4.1) and may be particularly sensitive to changes in traffic flow/type. In addition, the A1094 (links 6 and 8) has a collision rate that is just below the national average. These links (5, 6, 7 and 8) are considered potentially sensitive to changes in traffic flow and therefore need to be assessed further.

Severance (26.6.1.8) Impacts

186. The Councils consider that the impacts of construction traffic identified in Tables 26.31, particularly HGVs have been underestimated on the following links:
    - 2a Yoxford, 3a Farnham/Stratford St Andrew,
    - 3c Little Glemham/Marlesford,
    - 4b Theberton,
    - 5b Sternfield,
    - 7 Friston,
    - 10a Aldeburgh,
    - 13 Aldringham,
    - 14 B122 Leiston, and
    - 15 Knodishall/Leiston.

187. The majority of these settlements have narrow footways and few formal crossing facilities. The Councils also disagree with the comment that through the village of Theberton a footway is provided on at least one side of the road (26.5.1.2). The footway does not extend to the extremities of the settlement and there is a small gap outside The Old Manor. The footway is narrow in places, as is the adjacent carriageway; with large vehicles overhanging the footway and no crossing points (dropped kerbs) are present.

Driver Delay, Road Closures (26.6.1.11.2) and Escorted Vehicles (26.6.1.11.3) Impacts

188. The Councils expect, unless there are exceptional circumstances that pedestrian and cycling access will be maintained on closed sections of roads. Exceptions will only be accepted where it is physically impossible to do so (e.g. bridge removed) or it is unsafe to do so. In such cases alternative pedestrian and cycle routes must be provided along the shortest practical route.

189. Tables 26.25 in the PIERs consider the impact of road closures and set out a diversion route if one is available. In relation to the B1353 the table identifies that there is no acceptable diversion route. If the closure of B1122 is necessary SPR identifies that traffic travelling between Aldringham and Aldeburgh could be diverted via the B1069 and B1353. SPR has accepted that the B1353 is unsuitable for two HGVs to pass one another (hence the piloting scheme) and therefore the B1353 would only be acceptable as a diversion route for light goods vehicles and an alternative HGV would need to be provided.

190. Whilst escorting vehicles on the B1353 between Aldringham and Thorpeness is acceptable in principle in highway safety terms the details need to be agreed and

carefully considered in relation to any residential amenity impacts. It is accepted that this method is less disruptive than closing the road (i.e. a delay of 3 minutes is less than the additional time taken to divert via Aldeburgh) but it will still cause inconvenience for the local community and tourists. It should be noted that the mechanisms for access by emergency vehicles remains to be agreed.

Potential Impacts during Operation

191. The Councils accept that the impacts on the highway during operation (26.6.2) are relatively minor with the exception of any future major maintenance refurbishment or renewal and the support services based at local ports.

A12 Cumulative Impacts

192. The proposals could result in a significant increase in HGV movements on the A12, both to the north and south of Saxmundham. Although outside of the assessed highway network, the Councils believe that the majority of movements from the A12, especially the HGV movements would travel via the A14; this would exacerbate pre-existing issues along the route. EDF Energy's Stage 3 consultation for Sizewell C includes proposals for a bypass of the villages of Stratford St Andrew and Farnham. Without this mitigation in place all of SPR traffic from the south would travel through the two villages, with impacts on air quality, noise, severance, road safety and congestion, especially as a result of the pinch point at Farnham bend. The pinch point would result in an increase in HGV movements passing at the bend as well as in very close proximity to the footways increasing the risk to all road users. The impact of additional vehicles through this network should be proportionately mitigated.

193. The proposed development would also result in an increase in HGV movements through the villages of Marlesford and Little Glemham resulting in impacts on air quality, noise, severance and road safety that should be mitigated.

194. The Councils recognise that the A12 at Woodbridge would see some congestion without the development in the future; however given the impacts of the developments on an already congested network, we would expect SPR to contribute towards mitigating their impacts at the location. The most effective way to address the additional pressures on the alternative routes is likely to be improvements to the A12, reducing the potential for re-routing as demonstrated by assessment of traffic for Sizewell C.

195. For the county road network, but especially on the A12, assuming the projects are demonstrated to have a significant impact we would expect SPR to contribute towards

mitigating their impact at any locations where there are either capacity issues or road safety issues.

Highways and Transport Mitigation

196. The Councils note that very little is proposed by SPR in the way of transport mitigation in relation to the impacts of the projects. The mitigation details provided in the consultation documents are limited to three junctions:
    - A1094 / B1069.
    - A12 / A1094.
    - A1094 / B1122.

    The mitigation proposed for each of the above junctions will be discussed in more detail below.

A12 / A1094

197. The proposals for the junction are:
    - A temporary reduction in the posted speed limit in advance of the junction from 50mph to 40mph;
    - Provision of enhanced warning signage to better highlight the junction to approaching drivers; and
    - Provision of rumble strips and associated slow markings, to provide an audible and visual warning of the hazard to approaching drivers.

198. The Councils consider that the improvements proposed for the A12/A1094 junction (Cluster 3) are not sufficient to reduce the significance from major to minor in Tables 26.31. The junction has an existing high standard of signing including a speed enforcement camera and a reduced speed limit of 50mph.

199. The Councils remain unconvinced that the proposed mitigation is sufficient given the significant increase in peak hour turning movements and daily HGV turning movements as a result of the projects at the junction, with impacts on congestion and safety. The increased traffic on the A12 and A1094 will tend to decrease gaps on the A12 in both directions for traffic turning in and out of the A1094. As HGVs require greater gap times to turn safety this will increase the risk of misjudgement of gaps, a factor in past collisions and increase delays and frustrations for other drivers. EDF Energy is currently consulting on their proposals for Sizewell C, which includes a two-village bypass of the villages of Farnham and Stratford St Andrew. The proposals include a roundabout at the A12/A1094 junction to be delivered in the early years of their programme.

200. The consultation documents (26.3.2) indicate that SPR consider the traffic impacts a 'realistic worst case'. Appendices 26.15 of the PEIRs provide indicative traffic flow diagrams for the EA1N and EA2 developments, these are for the combined average day of the peak, and show, if all materials were from the south a peak impact of 382 daily movements (128 cars and 254 HGVs) at the junction and 88 peak hour movements (64 cars and 24 HGVs). These represent the peak impacts, but the average peak impacts. There is some risk that, especially for the HGV movements there is significant variance in the number of potential trips on any day. It is worth noting that EDF Energy as part of their consultation for Sizewell C indicated that the busiest day for materials could be as much as twice the average day. Further to this, as indicated above, the Councils have concerns that the number of LGV movements has not been included in the assessment, meaning that the impacts for turning movements at the junction are even greater than being indicated.

201. No localised junction modelling has been undertaken of the junction; however, the accident poor performance is likely to be a result of difficulty for vehicles to find gaps to undertake turning movements, and this is indicative of a junction where there is the potential for issues with capacity e.g. the delay at the junction means that drivers are undertaking risky turning manoeuvres. Further to this, the significant increase in HGVs will result in longer queues in the right turn lane.

202. It is the Councils opinion that far more significant mitigation works are required for the junction. The increase in traffic will still mean that there will be fewer gaps for vehicles to undertake their turning manoeuvres, along with a significant increase in HGVs undertaking the manoeuvres. On top of these impacts is scenario 1. This includes a cumulative impact assessment with both EA1N and EA2 coming forward at the same time. Appendices 26.23 of the PEIRs provide indicative traffic flow diagrams for the cumulative impact of the two developments, these are for the combined average day of the peak, and show, if all materials were from the south a peak impact of 498 daily movements (176 cars and 322 HGVs) at the junction and 120 peak hour movements (88 cars and 32 HGVs). Again, this does not include the LGV movements.

203. Notwithstanding the comments above, all highway improvement schemes, unless otherwise agreed, should be subjected to detailed design, swept path assessment, junction modelling and a road safety audit, as part of the DCO submission.

A1094 / B1069:

204. The AIL study identifies the requirement for localised widening at the junction of the A1094/B1069. The proposed scheme should be subjected to detailed design, swept path assessment, junction modelling and a road safety audit as part of the DCO

submissions. While analysis of past crashes has been undertaken and reported as showing no pattern other than driver error, consideration should be given to the changes in use and driver behaviour that will occur as a result of construction traffic using this route.

A1094 / B1122

205. The proposals identify three options for mitigating the potential for delays associated with HGVs turning at the A1094/B1122 junction, these are:
    - Requiring all HGVs to loop around the roundabout. This strategy would be communicated to drivers through the issuing of delivery instructions and also supplemented by advanced signing;
    - Requiring all articulated vehicles to be escorted by a pilot vehicle to hold back oncoming traffic; and
    - Undertaking minor localised carriageway widening.

206. Of the three options presented, the Councils consider that controlling traffic by pilot vehicles or other methods of traffic management is likely to cause the least disruption to road users based on the proposed number of large vehicles using this route.

207. A number of locations are included where peak hour traffic impacts have been identified, as set out at Tables 26.24. There are noticeable traffic impacts, which are yet to be fully assessed.

Highway Maintenance

208. Prior to commencement of construction works, it is anticipated the construction contractor would record the condition of roads, tracks, land, fences, etc, by means of schedules and photographic or video surveys. The details of infrastructure (such as water pipes) collated would be reviewed in addition to a review of unrecorded services such as land drains and irrigation systems.

Construction Issues

209. Cables may be placed directly underground at 1.2m depth without ducting (6.7.2.1), although ducting may be used in some or the entire route. The Councils would request that ducts are used within the limits of the public highway to avoid disruption to the highway later. Wherever possible the jointing bays will be located at the edge of field boundaries or roads to allow future access (297) and jointing bays would not be permitted within the public highway.

210. Deliveries of construction materials and personnel along the onshore cable route would be via the use of a temporary haul road within the working width. This haul road would run between CCSs, located at access points along the onshore cable route. These CCSs would be temporary site compounds providing facilities for the construction workforce and secure storage areas for materials. Haul roads should be designed to accommodate the anticipated traffic and not to allow water, mud or any debris to affect the public highway or Public Rights of Way.

211. The temporary substation construction access haul road (6.7.8.5) would in principle be acceptable as it would allow access to the substation avoiding Friston for works traffic.

212. It is noted that the CCS will form the main points of access onto the linear construction site, provide the main areas for the storage of materials and equipment (6.7.3.11) and wheel washing facilities. All construction traffic is proposed to be routed to the CCSs, and thereafter the majority of construction traffic would be carried along the temporary haul roads.

213. In principle the Councils accept the proposal that traffic should be routed along strategic lorry roads identified within the Suffolk Lorry Route Network with limited access points via local roads. The Councils however disagree that while these local roads commonly handle large agricultural plant this is only on rare occasions and does not make them suitable for other large vehicles or loads.

214. Pre-construction activities (6.7.3.2) would include modifications to the highway such as the new access points. The Councils concur that these should be installed in advance of the main works providing access to the CCSs. In addition, early completion of offsite highway improvements would be required to facilitate access of HGVs and AILs to the CCSs.

215. An Outline Access Management Plan will be submitted with the DCO applications and the Councils would expect to be consulted on this.

216. Additionally, four locations have been identified where the cable route crosses the public highways. These locations are identified as Crossing IDs within Figures 26.7 within Chapters 26 Traffic and Transport. Ingress or egress will not be sought at the Crossing IDs at Thorpeness Road and Grove Road, and traffic management will be employed to ensure safe crossing of the public highway by construction traffic along the onshore cable route haul road (including the Crossing ID locations on Aldeburgh Road and Snape Road).

217. Modifications to the public highway could potentially comprise:

- Structural works to accommodate Abnormal Indivisible Loads;
- Localised widening / creation of overrun areas;
- Temporary moving or socketing of street signs; and
- Temporary moving of street furniture.

Any modifications to roads would be undertaken in consultation with and in accordance with the requirements of the Councils. Stage 1 safety audits will be expected to be provided as part of this process.

218. It is proposed in the consultation (6.7.3.10.4) that minor road (those where two vehicles cannot pass) crossings across the public highway would be by open trenching techniques whilst maintaining one lane of through traffic at all times (with local widening) or through temporary closure to traffic. The Councils support the proposals to undertake temporary works such as widening the carriageway to avoid road closures causing delay and driver anxiety. Any road closures will require permission from the Suffolk County Council as Local Highway Authority following consultation with statutory organisations, unless included as specific measures in the DCOs. The proposed procedure for crossing major roads is the same as described for Minor Road Crossings except that generally the road will not need to be temporarily widened prior to beginning excavation. The Councils concur that temporary closures of major roads should be overnight or over a weekend to avoid disruption to road users and specifically public transport including school buses. Access for pedestrians and cyclist shall be maintained at all times.

Construction Traffic Management Plan

219. An outline Construction Traffic Management Plan detailing temporary road closures, diversions and/or other local traffic management submitted with the DCO applications (6.7.3.15) would be considered a minimum requirement by the Councils to comply with national policy and secure the assessed parameters within the DCOs. The outline CTMP will include:
    - Details of the measures to be adopted to ensure that the traffic demand forecasts are not exceeded;
    - The mitigation measures to be adopted to manage the traffic and transport impacts;
    - Number and location of parking spaces including electric vehicle charging and facilities for cyclists;
    - Travel plan measures to manage construction employee movements and maximise use of sustainable travel options; and
    - Details of the proposed access works and traffic management.

220. The proposals do not identify the car parking provision for staff. The proposed developments need to demonstrate that the proposed car parking can meet the calculated demand, whilst minimising the number of staff cars on the network through demand management and travel planning within the CTMP.

B1353 HGV Marshalling Area and Traffic Control

221. The HGV Marshalling Area (6.7.3.12) proposed along the B1353 at Elm Tree Farm is accepted in principle in highways terms as a practical method to manage deliveries of material and equipment for the landfall HDD.

Additional Mitigation Measures (26.6.1.12.2) A1094/B1122 junction Aldeburgh

222. The Councils consider that of the three proposed options the use of escorts for large vehicles is the safest and most practical. Widening will be disruptive and may still result in driver error causing vehicles to manoeuvre outside their lane and looping around the roundabout will not be understood by other drivers. The number of occasions this occurs can be reduced by careful programming by breaking of loads into smaller elements wherever possible.

Permanent Substation Access Road – B1121

223. As stated previously the Councils are of the view that the permanent operational access to the substations off the B1121 should only be utilised for AILs when the temporary haul road is not a practical option or has been removed. Construction vehicles for the substation sites should also utilise the temporary haul route as the A1094/B1121 junction has not been assessed for its suitability for HGV movements and a left turn into the B1121 for eastbound traffic is difficult. Workers should also be encouraged to use alternative routes than the B1121 through Sternfield as SPR has identified it as a link with a higher than usual frequency of crashes. Once the haul road has been removed the AILs would need to be routed through Friston.

Cumulative Impacts

224. SPR has proposed two scenarios in relation to the cumulative impacts of the projects; the impacts have been assessed as if the projects have been built simultaneously or sequentially. The significant difference in transport terms are the duration of the impact of the schemes and peak HGV/worker trips. Building sequentially would generate a higher total number of trips due to the additional remediation necessary between the two projects and repeated mobilisation. Building simultaneously creates a smaller overall trip total but a shorter duration and hence higher daily flows. It is

acknowledged that SPR has included data in the PEIR appendices summarising the worst-case highway impacts in terms of highest maximum daily HGVs (EA1N and EA2 constructed at the same time will create the maximum total daily movements). However, the main report concentrates on individual scheme delivery (building sequentially) where the worst-case impact is the total number of vehicle trips although these are distributed over a longer duration and hence daily maximum flows lower. The different traffic flows for each scenario should be clearly explained and presented in the Transport Assessment supporting the DCOs.

225. SPR has not assessed the cumulative impact of the projects on traffic and transport with Sizewell C or other projects. SPR has stated within the chapters that the earliest date that construction could commence would be 2024; as such a baseline year for background traffic of 2024 has been derived for the purpose of the assessment (26.5.7). The Councils are concerned however that this would be after the Sizewell C early years scenario, meaning that Sizewell C traffic would be on the road network, and traffic would increase to the peak at 2027. SPR need to fully assess the cumulative impacts of the projects with Sizewell C and any other projects. The Councils would welcome SPR's commitment to work with EDF Energy to identify the cumulative impacts. The specific impacts would be the combination of both projects traffic on the A12 north of the A14 and the SPR traffic using the A1094 and B1069 in addition to light traffic accessing Sizewell.

226. The specific cumulative impacts are considered by the Councils likely to be:
    - A12 Woodbridge (congestion)
    - A12/A1094 junction, Farnham (road safety)
    - A12 Marlesford, Little Glemham, Stratford St Andrew and Farnham (Environmental, Severance, Pedestrian Amenity, Geometry/road safety at Farnham bends)
    - A12 / B1122 junction Yoxford (congestion, road safety)
    - A1094/B1069 and B1122 junctions at Snape, Sternfield and Knodishall (road safety).
    - The Councils are concerned that the poor visibility for westbound traffic turning into the B1121 at Sternfield has not been adequately considered.
    - Additional minor junctions accessing A12, A1094 and B1122 (road safety due to queuing on side roads)
    - Increase severance and loss of pedestrian amenity in settlements such as Theberton, Leiston, Aldeburgh, Knodishall and Snape

227. Both EDF Energy and SPR will be expected to make proportionate contributions toward mitigating their impacts on the transport network.

228. SPR should note that the Councils express concern that highway mitigation will not be delivered before significant impacts occur on the local network and that the A12/B1122/A1094 haul routes should remain as free from disruption due to associated mitigation works as possible.

229. Traffic and Transport

The Councils remain concerned about the effect of the location of the cable corridor and positioning of the haul road access point off Aldeburgh Road on the setting of Aldringham Court. The Councils are also of the view that further work is necessary in relation to a number of topic areas, a summary of the Councils recommendations are set out below.

Offshore Construction – Transport Issues

SPR need to provide confirmation as to whether the impacts of delivering offshore components for the turbine foundations and completely assembled wind turbines has been considered in terms of the transport impacts within the PIERs.

Transport Assessment Methodology and Traffic Data

1. The Councils recommend the use of alternative transport related guidance such as WEBTAG. It is not expected the GEART methodology will be utilised during preparation of the transport assessment for the DCO submissions due to the limitations outlined in Appendix E.
2. During the assessment of severance and pedestrian/cycle amenity, SPR should include consideration of the facilities in place at the specific location.
3. The Councils do not accept the employee car share ratio put forward by SPR.
4. SPR should provide evidence from EA1 to support the argument that shift patterns of the workforce will not overlap with the AM peak hour. If this cannot be demonstrated further assessment of this impact will be necessary.
5. SPR should provide full details of methods to be used to control and monitor vehicle numbers and routes to ensure compliance with assessments.
6. SPR need to give further consideration to the impact of Sizewell C and the impact on the data assumptions regarding the availability of workforce.

Construction Accesses

1. SPR need to provide further full details of the new accesses including detailed design, swept path assessment and a road safety audit. The use of DMRB guidance should be utilised.
2. SPR should provide further information regarding how pedestrians and cyclists will

access the sites including segregated facilities and cycle parking.

3. SPR to detail how access 2 will interact with the cycleway associated with Sizewell C.
4. SPR will be expected to provide an outline Construction Traffic Management Plan with the DCOs which should include details of measures to ensure traffic demand forecasts are not exceeded, mitigation measures, Travel Plan measures and details on how the projects will support sustainable transport.

Traffic Impacts

1. Further assessment should be undertaken of the impacts on the road network, including the A12 and the Leiston and Saxmundham town centre signal junctions.
2. The Councils also seek clarification as to why the impacts of the projects are greater at Junction 55 of the A14 than Junction 58 which is nearer the proposed onshore development area.
3. SPR should provide a full cumulative assessment of the traffic and transport impacts of the projects with Sizewell C.
4. The assessment of the impacts of the pilot vehicle strategy on the B1353 should identify the risks of the queue being greater than that indicated and assess what the implications are for road safety. The impact of the strategy on residential amenity should also be considered.

Abnormal Indivisible Loads (AILs) Impacts

1. The Councils have significant concerns regarding the specified AIL routes.
2. SPR should engage with EDF Energy regarding the potential to utilise the BLF for AIL deliveries.

Light Goods Vehicles (LGV) Impacts

The Councils require SPR to provide confirmation that the LGVs have been included within the assessments and further details are provided in relation to what variance there is in LGV trips per day.

A12/A1094 Impacts

1. The Council require SPR to undertake further assessment of links 5, 6, 7 and 8 which are considered potentially sensitive to change in traffic flows.
2. The Councils request that SPR reconsider the impacts identified on links 2a, 3c, 4b, 5b, 7, 10a, 13, 14 and 15 which in our view have been underestimated.

Driver Delay, Road Closures and Escorted Vehicles

1. The Councils expect that, unless there are exceptional circumstances, pedestrian and cycling access will be maintained on closed sections of road.
2. An alternative route for HGVs must be identified if the B1122 is closed as the diversion route of B1069/B1353 is not suitable for HGV traffic and could therefore only accommodate the diversion of light goods vehicles.

Cumulative Impacts

The impact of additional traffic on the highway network from the A14 along the A12 to the sites will need to be proportionately mitigated.

Highways and Transport Mitigation

A12/A1094

The mitigation proposed by SPR at the A12/A1094 junction is considered inadequate and insufficient to reduce the significance of the impacts at this junction from major to minor.

A1094/B1069

The Councils recommend that SPR gives further consideration to the mitigation proposed at the A1094/B1069 junction, taking into consideration the changes in use and driver behaviour that will occur as a result of the construction traffic using this route.

A1094/B1122

1. The Councils recommend that the use of a pilot vehicle or other method of traffic management at the A1094/B1122 junction would cause least disruption to road users.
2. SPR identifies (Tables 26.24) a number of sensitive junctions where peak hour traffic impacts have been identified; SPR however has not fully assessed these junctions. Further assessment is necessary.

Construction Issues

The Councils request ducting is installed where cabling is required to be laid within the limits of the highway in order to lessen future disruption. No jointing bays will be permitted within the highway.

Additional Mitigation Measures A1094/B1122 junction Aldeburgh

The Councils recommend SPR utilise escorts for large vehicles at the A1094/B1122 junction.

Cumulative Impacts

1. The Councils request that due to the differing impacts in relation to the two cumulative scenarios of the projects, full details of the impacts of both scenarios 1 (simultaneously) and 2 (sequentially) should be provided.
2. SPR must fully consider the cumulative impacts of the projects with other projects including Sizewell C on traffic and transport.

Socio-Economic Impacts and Tourism

230. Local partners share the same high-level ambition to develop a sustainable regional and national supply chain with the indirect benefit of increased education and training that these projects will bring to New Anglia. SPR's recognition of the significant opportunities to maximise and support the uptake of local socio-economic benefits through targeted enhancement, initiatives and support offered by these projects, learning from what worked from EA1 and EA3 and utilising proven mitigation strategies is welcomed.

231. From an Economic Development and Tourism perspective the SPR Phase 4 consultation documents show positive employment impacts both locally and regionally. SPR also reference the potential for positive impacts on the supply chain both regionally and nationally but do not indicate any targets to achieve these benefits (in particular local benefits). We are concerned that the positive benefits and economic potential these developments can bring to our local area are not currently being highlighted (see Employment and Supply Chain note below relating to load out port location and future Operations and Maintenance (O&M) work if these projects go ahead).

232. SPR suggests that local tourist accommodation businesses will benefit because non home based workers will use spare capacity in the off-peak tourist season but they do not explain how this impact will be mitigated if non home based workers are using tourist accommodation and preventing visitors from staying in the local area during peak season or where these workers will be accommodated if they are evicted from holiday accommodation in the peak season.

233. It should be noted that although the potential benefits of the proposed developments will be widely felt across Suffolk and beyond, the negative impacts requiring significant

mitigation will be very locally felt in the area of East Suffolk where the developments are focused and we will expect to see this positively mitigated by SPR. The consultation documents go into considerable detail explaining the framework, design, definition, content and methods of data analysis used to inform the work produced, but they do not show how this analysis translates into real, tangible economic benefits both locally, and regionally. SPR quantify in some detail the employment multiplier effects and benefits that will be felt more widely, whilst dismissing the negative worker and supply chain displacement effects, along with tourism, recreation and accommodation impacts that will be felt locally.

234. SPR do not fully consider the cumulative impact of a number of projects going ahead in the same timeframe (EA1N, EA2, Sizewell C, and National Grid Interconnectors alongside local infrastructure projects in the New Anglia Local Enterprise Partnership area (NALEP)). Due to the negative impact that will be felt in terms of employment displacement and tourism we would expect to see SPR seek to mitigate these impacts and where this cannot be done we expect SPR to propose mitigation funds for tourism, housing, communities etc.

Economic Impacts

235. The Phase 4 documentation does not consider the impact of additional pressures on the labour market, generated by other major construction projects likely to be on going at the same time. These include the construction of the Sizewell C nuclear power station, Bradwell B, other power stations in England and Wales, National Grid Interconnectors, and sizeable engineering projects such as Crossrail 2. Without considering the impact of multiple projects, any mitigation may be inadequate for the local impacts.

236. SPR has made no assessment of the impact Brexit will have on the ability of the projects to employ people, this will likely exacerbate the local and regional labour market and therefore we expect SPR to address this adequately.

237. No information is given on likely wages to enable any forecasting/calculation of likely Gross Value Added (GVA) benefit to the local economy.

238. Without additional mitigation, evidence suggests that local economic benefits will be lower than anticipated whilst negative effects such as displacement are likely to be greater. It is therefore essential for the Councils to seek from SPR early agreement of a robust and properly resourced mitigation plan to increase local economic benefits and reduce negative effects.

239. We expect SPR to develop clearly defined partnership strategies focussed on potential areas of economic benefit, such as, inward investment and supply chain development alongside developing innovative schemes to encourage non home based workers to spend money with local retailers.

240. SPR implies as part of their estimated home based/non home based workforce split that there are sufficient workers with the requisite skills based either locally or regionally. It does not reference the fact that these identified workers are probably currently employed meaning that there will be significant displacement of these workers from existing jobs, businesses and the supply chain that will clearly impact negatively on the local economy. For example, SPR quote that 16,545 appropriately skilled workers exist locally but they do not say that they are all currently employed elsewhere.

241. To maximise the benefits of the projects in the local area, there needs to be a strong and pro-active partnership between SPR, the Councils and other stakeholder bodies including NALEP and the Suffolk Chamber of Commerce. SPR is equally expected to work with these stakeholders to minimise negative economic impacts on local communities and the local and regional economy. This includes defining mitigation measures to be included in the final DCOs.

242. The Councils expect to see a clear, realistic, positive mitigation strategy with key targets and ranges for financial investment that SPR is proposing for each economic area affected, including skills, tourism, supply chain etc. The Councils need to have greater understanding of and further discussion on the intent and scale of investment from SPR.

Tourism

243. It is good to see that SPR's own calculations suggest that tourism encompasses approximately 20% of employment locally. However the Councils are concerned about the potentially significant negative impact of the developments on the tourism sector. This is important given that, according to the Suffolk Coastal and Waveney District Councils' Volume and Value Study for all of Suffolk (2017 data), it is estimated that the total value of tourism is £2.03bn, with 42,118 tourism related jobs. The Councils believe that the impacts and mitigation measures need to be identified as soon as possible.

244. In relation to tourism and recreational disturbance, the SPR consultation documents conclude that the impact of the projects will be of negligible significance. The assessment does not however consider the impact on the perception of visitors during

the construction phases of the developments especially when considered cumulatively with other energy projects and how this will influence their behaviour and consequently impact on local tourism.

245. It is disappointing that the Phase 4 documents suggest the proposed construction projects will not negatively impact on the attractiveness of the area to tourists. It is also very concerning that SPR propose no visitor perception survey of their own to assess and measure the tourism related impacts of the proposed developments. The reliance on desk research and trip advisor reviews of wind turbine visual impacts is totally inadequate as this cannot begin to accurately assess tourism related impacts of the disruption caused by the offshore and onshore construction work nor can it realistically assess visitor perceptions of the completed windfarms and onshore substations. SPR refer to a council led independent visitor survey but in fact the only independent survey that we are aware of is the one now being undertaken by the Suffolk Coast Destination Management Organisation (DMO) in partnership with the National Coastal Tourism Academy.

246. The Councils note there is no reference to a Tourism Fund to mitigate negative impacts on the tourism and visitor economy. We would expect there to be a tourism mitigation fund and also expect to have firm commitment from SPR to support marketing and promotion activities to be undertaken by our partner, the Suffolk Coast DMO.

247. In relation to tourism employment, SPR assumes that non-residential workers will stay in local tourist accommodation with the expenditure by non-residential staff leading to between 11 to 22 FTE jobs on average during the construction period. The assessment also concludes that if peak employment for one project coincides with the high tourist season, the workers would not displace tourists but provide additional income to local businesses. It is not considered that SPR has adequately addressed the issue of peak season accommodation shortages and the cumulative impacts with other energy projects including Sizewell C. The Councils request SPR to ensure it is adequately addressed.

248. SPR assume that non home based workers will stay in local tourist accommodation which will be a benefit when the accommodation sector has out of season capacity. They do not adequately address the issue of peak season accommodation shortages, and their assumptions are also at odds with EDF Energy's Sizewell C analysis which states that most non home based workers at Sizewell C will stay in the (severely supply limited) private rented sector accommodation as tourism accommodation will be too expensive for them.

249. SPR concluded in the cumulative assessments there would be significant beneficial cumulative impacts to short term, long term and tourism employment. The assessments considered Sizewell C and Vattenfall projects; there is however other significant projects which will create a demand for similarly skilled people (Lowestoft Third Crossing, various housing projects etc). It should also be noted that the assessment in relation to Sizewell C was based on consideration of EDF Energy's Stage 2 consultation material which does not take into account the new maximum employment figures being sensitivity tested by EDF Energy. The cumulative assessment is currently inadequate and the Councils need to work with SPR to ensure a more robust assessment is provided. The availability of workers and accommodation will potentially have a knock on impact on the availability of accommodation for tourists.

250. The SLVIAs identified significant effects from the offshore infrastructure of EA2 and EA1N and EA2 cumulatively on the AONB. The AONB and Heritage Coast are designations which are largely based on the tranquillity and unspoilt nature of the area. It is this natural asset which tourists come to visit. The Councils are concerned regarding the harm caused to the purpose of the designations and the consequential impact on the tourist industry. This harm cannot easily be mitigated and therefore SPR should be providing compensation.

Employment and Skills

251. The consultation demonstrates a clear understanding of our regional policies, their aims and ambitions but does not make a clear link to how these projects will assist in delivering SPR's stated ambitions for skills, education and employment.

252. We expect SPR to set and deliver an ambitious plan to maximise the skills, education and employment outcomes for local residents. There are clear opportunities for SPR to capitalise on the skills and employment programmes already being delivered, working with us and other local organisations across our skills system to create a legacy that will benefit the area and positively impact people's lives for years to come.

253. The Memorandum of Understanding between SPR and Suffolk County Council used to deliver skills and education interventions for EA3 has been positive and has delivered many positive results. It is not designed to be a tool for local employment targets and these should be discussed and agreed as part of the planning process. If SPR were to not proceed with full build out of either project the Councils will need mechanisms in place to replace the existing skills and education Memorandum of Understanding with SPR and return any skills and education commitments to tools of planning.

254. SPR conclude that as the local baseline shows a lower skills level than that of the UK, we would have a local population that could only access lower skills job opportunities. The Councils will seek to challenge this assumption; targeted skills intervention would enable more local people to have the opportunity to access higher skills roles. We also have clear evidence that skill levels in Suffolk and the NALEP area are growing faster than comparative regions and we will expect SPR to enhance their current commitments to continue working with local stakeholders to ensure this trend is maintained.

255. SPR's labour assessment has not taken account of the fact that labour is currently employed, signified by the low unemployment rates in the NALEP area, and therefore the proposed projects are likely to result in displacement effects in the labour market. SPR has also not included any analysis of current reported skills shortages by employers in the construction, engineering and agricultural sectors, all of which draw on the same pool of workers who possess a similar, connected competence skill set. The Councils urge SPR to assess any current skills shortages to better understand displacement effects and bring forward suitable mitigation.

256. SPR indicates that higher skilled jobs will be mainly resourced from outside the area due to local skills and supply chain constraints. The Councils urge SPR to provide greater investment in skills training (legacy first) and to set specific targets both for SPR and their contractors to deliver a higher proportion of local and regional workers in higher skilled jobs.

257. It should be noted that the employment generated during construction will be short term and only a proportion of this being associated with the cable corridor and substation construction. A larger share of the employment is likely to be based in ports such as Lowestoft or Great Yarmouth for the offshore construction with the longer term opportunities often created in areas a considerable distance from the communities experiencing the permanent effects of the onshore substations and infrastructure.

Employment and Supply Chain

258. SPR in the consultation for both projects has made no commitment to what port(s) will act as the load out port or where their O&M facilities will be located. We would seek for these to be located within the NALEP geography to ensure we gain maximum economic benefit and further indirect and induced employment opportunities. They will play an important role in the regeneration and development of areas such as Lowestoft. The town is increasingly well placed to take advantage of the significant

O&M opportunities and several high profile regeneration projects that are aimed at supporting the growth in the energy sector.

259. It is positive to hear that all elements of the onshore construction could be facilitated by UK based companies; however, it is disappointing that SPR through this consultation say it is impossible to define the supply chain at this stage because of the location of suppliers and their competitiveness. Consequently they do not have a supply chain plan even though one is needed to secure an effective local and regional supply chain that will be needed to leverage the benefits of single or multi offshore wind projects. SPR also make no commitment to use local companies in the construction works planned for each project. The Councils expect to see agreed approaches ensuring local and regional companies are adequately supported to secure as much of this work as possible.

260. Local, regional and national employment percentages have been included for the purpose of assessment. There is no commitment made by SPR in the consultation to achieve any of these. The figures used for the purpose of assessments would be positive stretch recruitment targets for the projects and the Councils would like to engage with SPR to set realistic, but, stretching recruitment expectations.

261. SPR creates the argument that we have a growing ageing population and a shrinking working age population and therefore the projects attracting more people of working age to Suffolk is a positive. Although we welcome this positive aspiration the population figures can also be interpreted as a driver of a tight labour market and therefore these projects would further exacerbate an already tight labour market.

262. <u>Socio-economic Impacts and Tourism</u>

The Councils need further information in relation to a number of areas and greater commitments from SPR in order to maximise the potential socio-economic benefits locally and regionally and minimise the dis-benefits.

Employment

1. SPR need to assess the cumulative impact on the labour market created by the EA1N and EA2 projects in combination with other major projects likely to be occurring at the same time.
2. SPR need to consider the possible impact of Brexit on the availability of labour.
3. It would be useful for the Councils if SPR forecast the GVA benefit to the local economy as a result of the projects.
4. SPR needs to fully assess the displacement effects caused by the projects.

Tourism

1. SPR need to assess the impact of the projects on the perception of visitors and how this impacts on their behaviour during the construction phases of the developments especially looking at the cumulative impacts of all the major energy projects. This should involve SPR undertaking their own visitor perception survey.
2. SPR should reconsider the impacts of the projects on the availability of holiday accommodation during peak season especially considering the significant cumulative impacts which could be experienced with other energy projects.
3. SPR should consider the long term impact of the offshore turbines on the designated landscapes and tourist industry given the AONB and Heritage Coast are assets which draw tourists into the area. If mitigation of the impacts is not possible compensation should be considered.
4. The Councils wish to see SPR establish a Tourism Fund which could look at for example the marketing and promotion of the local area.

Employment and Skills

1. The Councils ask that SPR enhance their current, existing strategies to maximise the skilled labour available in the local labour force.
2. In order to better understand the displacement effects, SPR should assess any current skills shortages.
3. SPR needs to provide greater investment in skills training and to set specific targets for both SPR and their contractors to deliver a higher proportion of local and regional workers in higher skills jobs.

Employment and Supply Chain

1. The Councils expect SPR to utilise local ports particularly Lowestoft for the offshore construction load out port and as a base for an O&M facility to ensure the local area gains maximum economic benefit.
2. The Councils expect SPR to provide a supply chain plan with agreed approaches to ensure local and regional companies are adequately supported to secure the future work on the projects.
3. SPR should set realistic but stretching employment targets. There is no commitment by SPR to the employment figures provided within the PEIRs.

SPR need to engage with the Councils to produce a clear, realistic and positive mitigation strategy for each of the economic areas affected to increase local benefits and reduce negative effects.

When SPR considers the cumulative impacts of the EA1N and EA2 projects with other projects, the most up to date information should be utilised.

Ground Conditions and Contamination

263. Chapters 18 of the Phase 4 consultation indicates that a desk-based assessment study has been carried out and has not identified any significant forms of contamination to be present, as such it categorises the developments to be within a low to very low category of potential risk for contamination. However, a full site survey should be undertaken by a competent person and should include analytical reports for the presence of contaminated land covering the study area, this being; the landfall, onshore cable corridor, onshore substation and the National Grid infrastructure/connection locations.

264. Where investigation indicates the presence of existing contaminants, a remediation plan detailing the safe handling, removal or encapsulation of contaminated material should be provided to both the Environmental Protection Team at Suffolk Coastal District Council (East Suffolk Council in due course) and the Environment Agency.

265. Whilst it is unlikely that any significant source of contamination will be introduced by the proposed onshore developments, this level of construction work has the potential to impact on; land, water quality and human health, through spillages, mobilisation of sediment and contamination by surface water run-off or disturbance of previously unforeseen contaminants. Removal of superficial deposits could alter the surface hydrology and disrupt infiltration rates or alter surface runoff interactions with the subsurface. This in-turn could alter pathways and allow the mobilisation of sources of contamination within superficial deposits and allow the migration of contaminants into strata containing the underlying superficial aquifers, which may then affect public and private water supplies.

266. The sensitivity of; human health receptors, vulnerability of water supplies and possible effect on ecological receptors in the area therefore remains high, and the magnitude of impact which might result from exposure to contamination may require significant mitigation measures to be put in place during site works. It is therefore important to minimise any potential accidental releases of contaminants by adopting a mitigation programme. This programme should include a CEMP and a Material Management Plan (MMP), these should be based on industry standards and codes of practice (e.g. Contaminated Land: Applications in Real Environments (CL:AIRE)). The mitigation programme should also be agreed with the relevant authorities before any works commence.

267. Should any unanticipated contamination be encountered during the construction of the projects, then work should be halted, sampling should be undertaken and where contamination is identified, a written remediation plan statement on how this contamination will be dealt with should be agreed with the Environmental Protection Team at Suffolk Coastal District Council/East Suffolk Council and the Environment Agency.

268. Where any remediation action has been required, then validation sampling should be undertaken and a report prepared, indicating how the contamination has been appropriately remediated to the agreed standard. The report should be made available to both the Environmental Protection Team at Suffolk Coastal District Council/East Suffolk Council and the Environment Agency.

269. The aforementioned MMP should detail all materials (i.e. soil, waste etc.) which are to be: stockpiled, relocated, removed from site for disposal purposes or safely encapsulated on site. All imported materials brought to site should be; validated, recorded and notified to both the Environmental Protection Team at Suffolk Coastal District Council/East Suffolk Council and the Environment Agency in line with a pre-agreed assessment criterion. Detailed evidence in the form of certification to 'Contaminated Land Exposure Assessment (CLEA) standard' will need to be supplied to ensure the source of the imported material is suitable for the proposed end use.

270. <u>Ground Conditions and Contamination</u>

The Councils wish to continue working with SPR to ensure that the appropriate mitigation is secured to ensure impacts on ground conditions/contamination are minimised.

<u>Noise and Vibrations</u>

Construction Noise

271. Chapters 25 of the Phase 4 consultation deals with noise and vibration from the schemes and emphasises that onshore constructional noise and vibration impact will be assessed using guidance contained in BS 5228-1:2009 + A1:2014 (Code of Practice for Noise and Vibration Control on Construction and Open Sites). This is an accepted method for predicting the impact of noise and vibration from a constructional programme and associated activities. Its accuracy is determined from combining the noise output of all constructional plant involved with each element of the programme, this being; earthworks, piling (if required), directional drilling, cable trenching, building works and associated construction traffic.

272. BS 5228-1:2009 + A1:2014 utilises an "ABC" methodology, which specifies a construction noise limit based on the existing ambient noise level for different periods of the day and is presented within Tables 25.10 of the consultation. A SoundPLAN noise model has then been generated utilising; constructional noise source data, geographical and topographical data, intervening ground cover and has then been corrected for; the distance between the noise source and receiver, acoustic screening created by barriers, buildings etc. The "on-time" which various plant will operate as a percentage of the assessment period is then calculated to complete the model. The residential receivers have been categorised to have medium sensitivity throughout and the results divided into different phases of the constructional programme.

273. The predictions indicated by this noise model claims there will be no impact on nearby receptors at the landfall location and no daytime impact on nearby receptors at the substation locations or along the onshore cable route. Therefore, the consultation has concluded that no additional noise mitigation measures will be necessary for these elements.

274. The predictions for construction work during the Saturday period 13:00 to 19:00 hours on nearby receptors at the substation locations indicates there will be minor noise impact at receptor SSR2 and enhanced mitigation measures will be required for that receptor location.

275. Greater concern is expressed for the predicted noise of construction work during the Saturday period 13:00 to 19:00 hours on nearby receptors along the onshore cable route, as 9 of the 19 receptor locations will be impacted and some to a high magnitude. The consultation indicates that standard mitigation measures coupled with site specific additional enhanced solutions, such as; screening with bunds or temporary noise barriers will be applied where necessary but the Councils are of the view that restricting working hours along the onshore cable route so as to finish at 13:00 hours on Saturdays would be a better method of noise mitigation in this noise sensitive and tranquil environment. A 13:00 hour finish time on Saturdays is widely used within the building industry and would also reduce transportation movements to and from the cable corridor during these sensitive amenity hours. The mitigation measures for the cable route should be discussed in greater detail within the ES and agreed with the Councils.

Construction Traffic Noise

276. It is reported that a construction phase traffic noise assessment screening has been carried out following the methodology within DMRB 2011 guidance and then

processed using the Calculation of Road Traffic Noise (CRTN) 1988 and assessed against a calculated Base Noise Level (BNL) for the year 2024, this being the start of construction. The overall noise level change for each highway has then been calculated and is shown in Tables 25.30. The results indicate that only minor noise level changes will be experienced by the nearest noise sensitive properties and no additional noise mitigation measures will be required.

277. The convoy system to be employed on Thorpeness Road for HGVs during the early stages of the projects (prior to the construction of the haul road south of Sizewell Gap Road) will the involve the utilisation of a waiting area for HGVs. The Councils are concerned that the waiting HGV may cause noise and disturbance to nearby residential properties and therefore further information will be necessary.

Construction Vibration

278. Chapters 25 of the Phase 4 consultation identifies HDD to be the greatest source of vibration during the construction works and using a representative example from BS 5228-1:2009+A1:2014 to the nearest noise sensitive receptors, calculates that vibration impacts are likely to be of negligible magnitude. Hence the consultation concludes that no additional vibration mitigation measures will be required.

279. The consultation does however identify potential vibration issues to road side receptors from passing heavy goods vehicles where potholes are present and further mitigation may be required in these circumstances.

Construction Noise and Vibration Mitigation and Monitoring

280. Standard noise and vibration mitigation measures are to be implemented by utilising a Code of Construction Practice Management Scheme together with a Traffic Management Plan. However, greater detail of all the proposed noise mitigation measures will need to be further agreed. The consultation recognises that noise and vibration monitoring will be an important element of management of both construction projects and as such the monitoring process should be agreed in advance.

281. <u>Noise and Vibrations</u>

The Councils are concerned about the noise impacts of the projects during construction and seek further information.

1. The Councils recommended that SPR should implement a restricted Saturday

working period in order to mitigate the noise impacts which would be experienced during construction in line with BS 5228.

2. Further information is required in relation to the mitigation measures to be utilised for both noise and vibration impacts. SPR should also consider whether greater mitigation is required to mitigate the impact of vibrations on roadside receptors.
3. Further information is required in relation to the potential noise and disturbance caused by the HGV waiting area adjacent to Thorpeness Road/B1353.

Air Quality and Dust

Dust

282. Chapters 19 of the Phase 4 consultation deal with Air Quality and dust suppression and concentrates on the earthworks, construction and track-out of HGV movements associated with the projects. It is indicated that dust impacts would be temporary and of short-term exposure, therefore the magnitude is considered to be low, however, a Dust Management Plan (DMP) should be agreed. In particular it is important that this DMP includes a range of measures to prevent wind whipping of the long stretch of stockpiled top soil which will be created by the projects. The stockpiles will run east/west the length of the cable route and haul road and in the main will consist of light top soil. Wind entrainment is commonly seen in the 'Suffolk Sandling' area and presents a major risk to both residential and ecological receptors. Whereas individual movement of soils may be of short duration this long length of stockpile will be in place for many months and subjected to strong winds at times. Covering or fencing this length of stockpile is impracticable and seeding or re-vegetation is likely to be the only suitable measure to mitigate wind whipping of this vulnerable stockpiled material.

Air Quality

283. The air quality assessment of construction impacts associated with EA1N and EA2 is considered comprehensive and the methodology follows appropriate guidance. However, there are a number of specific issues or concerns that have been identified which have been set out in detail within Appendix F. To summarise the Councils require clarification in relation to the version of the Emissions Factors Toolkit referenced and utilised for the assessments, provenance of traffic data utilised, and cumulative peak construction year identified. Further information is required in relation to the decommissioning impacts and reasons behind the decision to scope out operational impacts. Greater justification is required for the exclusion of Sizewell Marshes Site of Special Scientific Interest as an ecological receptor, and the exclusion of some diffusion tube monitoring sites from the air quality assessment.

Results of Assessments

284. The air quality assessment results concluded that there would be a moderate adverse impact in the Stratford St. Andrew Air Quality Management Area (AQMA). However, the Chapters argue that there is an overall conclusion of insignificance based on the effect at other receptor sites being negligible, the conservative approach applied and in consideration of Suffolk Coastal District Council/East Suffolk's measures targeted at reducing AQMA concentrations. Verification within this location (tube STA 8 at Long Row) showed the model has a tendency to under-predict (a factor of 4.73 compared to the 3.89 average applied across the study area). In terms of absolute concentrations, the model therefore under predicts by nearly 5 µg/m3 in this AQMA post model adjustment which means that actual concentrations reported at Receptor 1, modelled at 39 µg/m3 could in fact be as high as 44 µg/m3. Accordingly, there is the potential for exceedance of the Nitrogen Dioxide (NO2) Air Quality Strategy (AQS) objective here based on model uncertainties and as such a conclusion of insignificant effects is not supported without appropriate mitigation.

285. Given the conservative nature of the methodology, SPR could demonstrate that the concentrations may not in fact be as high in this location as reported in the Chapters, either by way of sensitivity analysis or use of year-appropriate emissions and background concentrations.

286. No consideration is given to mitigating the adverse impacts in the Stratford St Andrew AQMA, which due to model under-prediction and uncertainty in this area is considered a significant effect. Concentrations and impacts are even closer to the Air Quality Strategy objective at R1 in the AQMA within the Cumulative Impact Assessment sections, Scenario 1. There is again no mention of how SPR will address this and little consideration seems to be given to the potential for exceedance here based on the reported results, relying instead on the assertion of a conservative methodological approach.

287. Within the dust emission magnitudes for the onshore works, the Cumulative Impact Assessment Scenario 1 (both EA1N and EA2 schemes at same time), Tables A19.3 list N/A for ecological receptors for construction. However, in the individual assessment of EA1N and EA2, the magnitude is classified as medium. This is inconsistent and should be clarified. Given proximity of ecological receptors, it is considered likely they should be included within the Cumulative Impact Assessments accordingly.

288. Section 19.4.3.1.16 paragraph 68 states, "Guidance provided by the Environment Agency (Environment Agency 2017) states that where the contribution of a project

leads to nutrient nitrogen deposition values below 1% of the critical load, impacts can be considered to be not significant. “The 1% of critical load alone is not considered robust in the determination of significance due to recent court rulings (Ashdown Forest and the Court of Appeal). If it is to be used at all, both case law and Natural England’s internal guidance require it to be used ‘in combination’ (i.e. taking account of other future sources) not for the scheme in isolation. Tables 19.28 show a change of 1% of critical load at receptor T-1, yet paragraph 120 states no results greater than 1%. SPR should confirm if this is a rounding issue. The above point regarding significance criteria could also be taken into consideration here, where all future sources should be considered. T-1 perhaps then warrants further ecological investigation, as they have stated.

289. In summary the Councils have a number of questions in relation to the air quality assessments, the sources of data utilised, scope of the study, methodology and model verification. The Councils are concerned about the impact of the projects on the Stratford St Andrew AQMA due to the potential of the model to under predict and require SPR to carefully consider the accuracy of the results of the air quality assessment and propose appropriate mitigation.

290. Air Quality

The Councils require further information and assessments in order to conclude that the projects will not have an adverse impact on air quality.

1. SPR need to provide a Dust Management Plan which includes a range of measures to prevent wind whipping of the stockpiled top soil which will be created by the projects.
2. SPR need to undertake further assessment of the Stratford St Andrew AQMA by either sensitivity analysis or use of year appropriate emissions and background concentrations. Appropriate mitigation should then be identified.
3. SPR should provide further information, clarification and justification in relation to a number of the decisions taken regarding the air quality assessment (see Appendix F)

Lighting

291. The current consultation does not detail the use or extent of construction or operational site floodlighting, if this is to be used then further details should be provided; the location, height, design, sensors and luminance of all site floodlighting and the mitigation measures used will be necessary to;
    a) Limit obtrusive glare to nearby residential properties,
    b) Minimise sky-glow.

The mitigation measures should also indicate the extent of light reduction likely to be achieved.

292. Lighting

SPR should include for each project full details of any external lighting required during construction and operation.

Method of Working

293. SPR is bringing forward the two schemes EA1N and EA2 as separate projects that can be implemented simultaneously or in sequence, one following the other. In the latter circumstance, the first scheme may well have been completed and the land restored before the second scheme comes, in disrupting the same communities and environment again. This is in contrast with the approach taken by SPR in connection with the EA1 and EA3 developments where ducts for the second scheme are being laid at the same time as the first scheme, leaving the second scheme merely to pull cables through the ducts when it is implemented without having to dig up the entire area for a further time.

294. This complete separation of schemes appears to be driven in part by the Government's insistence on the necessity to treat the projects as separate entities and in part by the commercial expediency desires of SPR. Notwithstanding the rationale for this approach, it creates the risk of effectively doubling the disruption caused to this area of Suffolk during the construction of the cable corridor.

295. Method of Working

The Councils wish to urge SPR to look again at the method of working being proposed and commit to a more integrated and efficient approach to developing the two projects in order to lessen the detrimental effects which will be experienced during construction in particular but also decommissioning.

Cumulative Impacts

296. Several of the sections above have referred to the cumulative impact of these schemes with Sizewell C, if it is taken forward. The PEIRs for EA1N and EA2 were not able to fully take into account proposals for Sizewell C as both were being developed at the same time. Further work will be needed by both SPR and EDF Energy to ensure

that their respective assessments of cumulative impact are undertaken on the most up to date information.

297. The Councils have also been made aware of the offer for two interconnectors (Eurolink and Nautilus) proposed by National Grid Ventures to be connected to the National Grid at Sizewell. The location of the National Grid substation as part of the SPR proposals is likely to be a strong determinant for the location of subsequent schemes which will need to connect through to the same National Grid substation. Some of these have already been given a connection offer at the same point (National Grid Ventures interconnectors to Europe), while others may follow. This will clearly have an impact on the environment of the wider area, if not on the immediate locality, yet the cumulative impact of such schemes is not included within the current assessments. These should be included even if the level of detail available is less complete at this time.

298. It should be noted that the combined pressures created by these offshore wind schemes, Sizewell C and other energy projects elsewhere in East Anglia may bring forward the need to add a further pylon line to the Bramford to Twinstead (in Essex, close to Sudbury) link. This has been the subject of consultation previously but had been put on hold.

299. The Councils have and will continue to advocate for greater co-ordination in relation to energy projects. This is being sought through a number of different channels including organising meetings with all the promoters to foster improved lines of communication, seeking input from Government regarding the challenges faced in relation to the piecemeal approach to development and engaging with the Planning Inspectorate to ensure the cumulative impacts can be fully considered at examination stage.

300. <u>Cumulative Impacts</u>

1. The Councils require SPR to work closely with other developers including EDF Energy and National Grid Ventures, to fully consider the cumulative impacts of all the developments and how mitigation across the schemes can be combined to minimise the impact of the totality of developments in the local area.
2. The Councils also seeks a wider compensation package from SPR in relation to the broader impacts on community, environment and businesses of these projects.

THE COUNCILS CURRENT POSITION AT PHASE 4

301. The Councils are supportive of the principle of offshore wind development, both in terms of seeking to reduce carbon emissions and creating sustainable economic growth in Suffolk, including providing for long term employment for some of our coastal communities, provided this can be achieved without significant damage to the environment, residents and tourist economy of Suffolk.

302. SPR has however identified through the SLVIA that the offshore infrastructure associated with EA2 will have a significant impacts on seascape, coastal landscapes, the special qualities of the AONB, users of the Coast Path and cumulatively, the Councils therefore object to this project.

303. Based on the information available the Councils also have concerns in relation to the onshore proposals for EA1N and EA2 regarding their impacts on flood risk, land use, above and below ground heritage assets, background noise levels and therefore residential amenity, seascape, landscape and visual amenity. Collectively, when these areas of concern are taken together they have a significant adverse impact.

304. The Councils have also identified a number of areas where further information in relation to the projects and their impacts are necessary.

305. Notwithstanding the identified concerns, the Councils wish to work with SPR to seek mitigate these impacts where possible and where mitigation is not possible and residual impacts remain, seek compensation.

306. The Councils believe it is however unlikely that the adverse impacts of the proposals will be overcome or adequately mitigated and until adequate mitigation and compensation is proposed by SPR, the Councils object to:
    a) The offshore infrastructure associated with EA2,
    b) The cumulative impact of offshore infrastructure associated with EA1N and EA2,
    c) The onshore infrastructure associated with both EA1N and EA2 alone and cumulatively.

Appendix A – Public Rights of Way

Principles SPR should adhere to in relation to the PROW network:

- The Councils require that management measures, alternative routes and mitigation for each PROW affected to be agreed with prior to submission of the DCOs.

- A pre and post condition survey must be carried out including identification and assessment of surface condition and with a scope of coverage and methodology to be agreed with Suffolk County Council as Highway Authority.

- Where impacted by the works, any PROW will be restored to original condition or to a condition agreed with The Councils.

- The duration of a temporary closure of any public right of way to be kept to a minimum.

- An alternative route must be provided for any public right of way that is to be temporarily closed

- The location of alternative routes to be agreed with the Councils prior to DCO submissions. The DCO for EA1 included all proposed 'diversionary routes'.

- Any alternative route must be safe and fit for the public to use at all times – suitable surface, gradient and distance with no additional road walking between the natural destination points.

- Any temporary closure and alternative route will be advertised in advance by SPR, on site, in the local media, to the local parish councils and to Suffolk County Council, including a map showing the extent of the closure and alternative route.

- There will be no gates or stiles erected on public rights of way that cross the cable corridor

- Where rights of way cross the cable corridor and haul road, the surface must be kept in a safe and fit condition for use for all users.

- Pre-construction works must not obstruct or disturb any public rights of way (newt fencing, archaeology surveys etc) unless otherwise agreed with the Councils prior to submission of the DCOs. Management measures or alternative routes must be agreed with the Councils prior to DCO submissions.

- Pre-construction access that uses public rights of way – these routes must remain open, safe and fit for the public to use. Vehicle numbers and types (HGV, LGV) should be described.

- Pre and post condition surveys should be undertaken for pre-construction works and any necessary work carried out to ensure that these routes are suitable for the traffic that is anticipated to be using them.

Appendix B - Heritage Assets – Listed Buildings

1. Although the Councils are still awaiting the Impact Assessment we have significant concerns about the harm that the developments will cause to the significance of a number of the surrounding listed buildings. It is therefore considered important that our concerns are raised at this stage although the Councils would wish to provide more detailed comments once the Impact Assessment has been completed and made available.

Little Moor Farm, High House Farm and Woodside Farm (Grade II)

2. These three 17th century grade II listed farmhouses lie to the north of the village of Friston. Woodside Farmhouse lies on the northern edge of the settlement and Little Moor Farm and High House Farm about 1km to the north. They are all well preserved examples of the local vernacular building tradition. The timber framed farmhouse is a special building typology in the District and these buildings are characteristic of this type. These farmhouses have a direct and proximate relationship to their agricultural setting. They have a special, long established, relationship with the traditional farmed landscape. It is important that the significance of arable agriculture, enclosure and the estate farm to the development of the wider area and the very existence of these farmhouses is appreciated. The open, agricultural landscape is populated by crops which change in the rhythmic cycle of the seasons creating a seasonal character. Considerable weight should be given to the contribution that the continuing productive agricultural use, its character and openness, makes to the setting of the listed building. Harm to the setting of the listed buildings is inevitable if this landscape is developed, as the long standing relationship between these buildings and their farmland will be fundamentally changed.

3. The scale and prominence of the proposed developments in that setting is striking; the substation buildings would be within 500m of all of these assets. The existing pylons do not disrupt this setting to anywhere near the same extent as the proposals, the landscape is still fundamentally rural in character and the farmhouses can be appreciated in their rural setting surrounded by open, productive farmland. The development involves a transformation of the landscape character of the site to that of an industrial or other essentially urban, built up use of land. As well as the visual impact of the substation infrastructure harm will also be caused by virtue of the loss of agricultural use over a wide area within the farmhouses' setting. The developments would therefore cause harm to the significance of the listed buildings by virtue of the fundamental change to their setting. While we consider that this harm would be significant it would fall short of 'substantial harm' in terms of the NPPF and should

therefore be considered in line with paragraph 196 of the NPPF while having regard to s.66 of the LBCA (1990).

Church of St Mary (Grade II)*

4. The Church of St Mary is Grade II* listed. Its medieval fabric is important to its significance but so is its role as a focal point within the village. Village churches were built to be the landmark buildings within the settlement; the tallest building which would be a prominent feature in views from within and around the village. Due to its height the church helps to connect the outlying farmhouses and other buildings to the core of the village; inter-visibility between the church and other buildings surrounding the village centre is an important part of the church's significance. The proposed developments sit to the north of the church; the settings assessment identifies that 'the substations would be *prominent* in the foreground or even *obstruct* some views towards Friston church from the north and would also appear in the background of some views from the south'. The substation buildings would challenge the dominance of the church as the landmark building in the village and would therefore cause harm to the significance of this grade II* listed building. While we consider that this harm would be significant it would fall short of 'substantial harm' in terms of the NPPF and should therefore be considered in line with paragraph 196 of the NPPF while having regard to s.66 of the LBCA (1990).

Friston Post Mill (Grade II)*

5. Friston Post Mill is a landmark building in the village, the second tallest building after the church. It would have been an even more dominant building when it still had its sails intact. It is currently disused and is on the District's Buildings at Risk Register. There are a number of windows within the mill building itself, from which there are clear views of the surrounding open, agricultural land on which the substations are proposed to be built. There would also potentially be views of the mill and the substations in the same view when approaching the village from the south. There is potential for the substation buildings to challenge the visual pre-eminence of this important landmark building despite the distance between the site and the mill. While there has been a certain amount of infill development over time on the land surrounding the mill this is all domestic scale architecture. The introduction of industrial scale buildings in views of and from the mill has the potential to cause harm to the significance of the listed building. The Post Mill should therefore be scoped back into the setting assessment so the impact can be fully considered.

Friston House (Grade II)

6. Friston House is a 19th century brick built house set in substantial grounds. It lies around 500m to the west of the substation site. There is a substantial wooded area that surrounds the houses, limiting views from the public realm. It has not yet been established whether there would be views of the substations from within the grounds but given their scale and proximity this is a possibility. We await the result of further investigation, however if there were to be visibility of the substations from within the grounds this would intrude on the enclosed, private nature of this property and would negatively impact on its setting. This would cause harm to the significance of the listed building as this privacy and seclusion is part of the design of the property; this harm would be likely be less than substantial.

Appendix C – Archaeology

Specific archaeological comments have been provided in relation to the different documents publcished and chapters within the PIERs.

Technical summary:

- 51/53/54 Heritage impacts need to be considered in relation to any road improvement works, new access/haul routes associated with the scheme and CCSs.
- Approaches to archaeological assessment with regards to works at Farnham should be consistent with the Sizewell two village bypass evaluation work which is being undertaken this year.
- 56 sets out the topsoil will be removed and subsoil to the required depth, with some deeper excavations. Note that in areas of archaeological sensitivity, where remains would be vulnerable to a topsoil strip and there isn't suitable buffer of topsoil, mitigation would require its removal and the excavation of archaeological features (with implications for spoil and spoil management). The size and scale of archaeological operations and spoil management is not really indicated in the description of the project.
- 69 Heritage impacts need to be considered in relation to any landscaping and tree planting areas and also to any water management proposals.
- 118 Open area archaeological excavations in sandy areas should be considered in relation to dust management. Water bowsers are very expensive. Has the dust assessment considered exactly what is involved with archaeological excavation? The phasing of excavations to avoid large areas will need to be managed, as archaeological work cannot be done in too piecemeal a fashion or left open for too long. The areas of the scheme which are situated on sandy soils should be flagged in the DBA.
- 130+ Impacts on ecology will be pre-construction as well as construction.
- 138 Magnetometry not GPR has been used.
- 142 Mitigation requirements cannot be defined without the results of full evaluation. Without evaluation having been completed, provision will need to be made for full excavation of the entire cable route, substation sites and all associated elements of the scheme, or avoidance of any archaeology of high importance defined.
- 142 Without evaluation to understand the significance of surviving remains, impacts will not be able to be determined. This may therefore lead to the removal of as yet unknown nationally significant remains if preservation in situ through design is not a possible mitigation option. As such impacts have the potential to be significant.

Chapter 3:

- Included within the list of relevant legislation should be Ancient Monuments and Archaeological Areas Act 1979 and Planning (Listed Buildings and Conservation Areas) Act 1990.
- Suffolk County Council also has a Heritage Strategy which is not listed in the documents.
- Table 3.2 Policy 11.6 – this policy is not currently being met by SPR.

Chapter 4:

- SPR should note the option chosen was not the preferred archaeology choice given its high impact upon above and below ground heritage assets and the historic landscape. Insufficient archaeological assessment has been undertaken to support the conclusions drawn regarding archaeological impacts during the RAG assessment.

Chapter 5:

- Impact identification and assessment of the significance of impacts cannot be completed for above and below ground heritage assets without full archaeological evaluation. Mitigation for these impacts can also not be defined at this stage.

Chapter 6:

- 267 As well as drilling sites, the construction compound, CCS and transition bay sites would also require archaeological assessment and mitigation.
- 6.7.3.1 Archaeological assessment of a wider area than the maximum working width required if both schemes go ahead should be undertaken, to allow flexibility in the final micro-siting of the route, in order to avoid any significant archaeological remains which are defined.
- Any spoil storage areas, new road junction areas, site access areas, highway improvement works, haul road, temporary construction access roads, permanent access roads, temporary road widening areas, areas where top soil is stripped beneath an earth bund, pit locations for HDD/auger boring, CCSs, substation sites, laydown areas, landscaping and planting areas, new pylons areas, surface water drainage features, require archaeological assessment.
- 313 A joined-up approach between archaeological works and any other site investigations works involving ground disturbance should be undertaken, to avoid potential disturbance to archaeological deposits.
- 328 Archaeological considerations may affect excavation depths specified by SPR.
- 350 There are potential for paleo-environmental evidence and waterlogged archaeological remains to survive in the areas around the Hundred River and its drainage channels.
- 381 SPR should calculate the archaeological workforce numbers needed during different stages of the projects.

- 399 A joined-up approach between archaeological works and any other site investigations works involving ground disturbance should be undertaken, to avoid potential disturbance to archaeological deposits.
- 6.9 Details SPR's predicted work programme, without archaeological assessments being completed and mitigation requirements understood, this work cannot be factored into project programmes. Given the tight timescales, this has the potential to lead to delays.

Chapter 24:

- 5 The PEIRs acknowledge that they are not based on 'firm, substantiated and established levels of heritage importance'. The comments on the PEIRs are intended to ensure that the ES is based on robust information.
- 7 The Councils would want to see the rest of the geophysical survey data being made available in the ES in this fuller reporting.
- Tables 24.1 Further geophysics is still required, and we would expect SPR to commit to undertaking geophysics of all development areas, which they have not yet done.
- Tables 24.1 The Councils advice which has been repeated frequently since initial consultations and supported by other Expert Topic Group (ETG) members has not been followed with regards to trenching. The Councils still advise that trial trenching should be required pre-consent, in line with national policy, especially for any scheme critical areas or parts of the schemes where flexibility is limited and therefore where preservation in situ might not be able to be achieved through design.
- Tables 24.1 SPR has only carried out a cursory site walkover, a full and systematic earthwork survey for the area south-east of Half Way Cottages and also within the AONB where known military remains are recorded, has yet to be undertaken. A Written Scheme of Investigation (WSI) is not yet in place for this work.
- Tables 24.1 the Councils have advised geophysical survey data alone does not provide sufficient archaeological information to allow refinement of scheme design which minimises harm to below ground heritage assets, as there are likely a significant number of additional heritage assets, potentially of high significance, which geophysical survey will not have detected. Surviving below ground heritage assets have therefore yet to be fully defined.
- Tables 24.1 whilst confirming the approach to preservation in situ, in response to a point from Suffolk Preservation Society (SPS), SPR state that 'the identification of the need/requirement in respect of specific anomalies/features/sites would be identified in both the pre and post-consent survey work'.
- Tables 24.3 All scheme elements involving ground disturbance require archaeological assessment and mitigation as appropriate.

- Tables 24.4. SPR has advised that they wish to undertake an 'avoidance' mitigation approach to below ground heritage where possible but have not fully defined all surviving below ground heritage assets which will be impacted upon by different elements of the schemes and therefore the schemes cannot be designed to achieve this. Although geophysical survey has defined a number of anomalies likely to be archaeological in nature, their nature and significance is not understood, and this survey will not have defined all below ground heritage assets. As a result, there is also high potential for additional, as yet unknown, archaeological remains to survive throughout the schemes red line boundary area which are of high significance, including a potential for human remains. Also, without ground-truthing, SPR cannot be sure what it is that they are prioritising avoidance of. Without upfront trenching, good practice is not being followed and is not in line with previous discussions.
- 29 Geophysical survey has shown there is extremely high potential to encounter previously unknown below ground remains. SPR should anticipate additional as yet unknown sites which the survey is unable to detect.
- 30. Where remains are unknown as a result of insufficient evaluation, the option for preservation in situ may be removed which is against NPS-EN1. Geophysical survey alone will not provide information regarding the significance of remains and does not allow impacts to be fully assessed.
- 32 All outstanding geophysics should be completed pre submission of the DCOs, along with field walking and metal detecting (as a minimum for priority areas) and full earthwork surveys. The Councils would continue to challenge the decision to not undertake any trenching pre submission as this does not meet the requirements of NPS EN-1 and we would strongly advise that all elements of the schemes should be subject to trial trenching, however as a minimum, key areas of the schemes with limited flexibility for re-design to allow preservation in situ should be evaluated prior to submission. Paleo-environmental assessment should also be undertaken in the river crossing area. Any WSIs submitted towards the DCOs should be reviewed and agreed by the Councils and Historic England, along with suitable condition wordings.
- 33 Without full up-front evaluation having been completed pre DCO submissions, SPR will have to commit to undertake mitigation (either full excavation or avoidance as a worst-case scenario) across the whole area given that archaeological impacts will be unknown and therefore no areas can as yet be ruled out as having no archaeological impact.
- 34 Chartered Institute for Archaeologists (CIfA) and Historic England guidance must also be followed. The Archaeological Service will also prepare briefs for elements of the work. WSIs which sit below the Outline WSI for the project should be formally agreed, and mechanisms should be in place in the consent to secure this.
- 36 SPR has outlined procedures if intrusive ground works are undertaken in the absence of an archaeologist, the Councils hope thorough evaluation will aim to reduce the likelihood of this scenario occurring.

- Tables 24.5 without trial trenched evaluation to fully define and understand the nature and significance of below ground heritage assets the Councils are concerned that NPS-EN1 policies have not been complied with. Not undertaking sufficient archaeological assessment at this stage will mean that the nature, extent and significance of below ground archaeological remains in the landfall area, along the cable route and across the substation sites will not be fully understood, which does not comply with EN-1 5.8.9 and 5.8.10. This will also mean that insufficient information will be available to allow informed planning decisions to be made regarding the impact of proposals on below ground heritage assets. We are concerned that SPR are now proposing to delay all trial trenched evaluation until post-consent, despite an earlier commitment at scoping stage to undertake this work at least on the substation sites. This is against our advice (noted by SPR within chapters 24) that trial trenched evaluation of all elements of the schemes should be completed pre-DCO, in order to enable any sites of national significance which warrant preservation in situ to be identified, to allow archaeological mitigation strategies to be defined at the earliest opportunity and to ensure that archaeological findings are taken into consideration as the scheme design is refined. The Councils are concerned that further refinement is being undertaken without sufficient archaeological assessment to inform this work (as discussed in the Technical Summaries 38, Chapters 4-171 and Chapters 6-6.1)
- Tables 24.5 (section 5.8.12) This is not an equivalent level of assessment to fully substantiated and established levels of heritage significance from which informed planning decisions can be made. The Councils expert professional judgement and experience, based upon local knowledge of Suffolk's archaeology and the results of other projects in this landscape, indicate that there is high potential for extensive and significant archaeological remains throughout the development area. This needs to be assessed through rigorous and tried and tested evaluation techniques. SPR if being precautionary should therefore make provision for this and seek to fully assess this through thorough evaluation.
- Tables 24.5 (section 5.8.15) SPR must also consider the yet unknown remains of national significance which have yet to be defined and which may end up in areas where preservation in situ and avoidance is not an option.
- 44 The Councils are concerned that policy is not being followed due to the current lack of pre-application trenching.
- Table 24.7 Metal detecting will be required for all parts of the schemes (we would advise this could be just focused upon the trenches in some areas) with field walking used as appropriate, although we would not object to key areas being targeted in the first instance pre-consent. Comments regarding the timing of trial trenching have already been set out. A systematic full earthwork survey should be undertaken pre-consent.

- 57. Geophysical survey will not have picked up anomalies relating to all below ground archaeological remains which are present and therefore is not a definitive guide of presence/absence. The refinement of the cable corridor without trenching to fully understand surviving archaeological remains is a concern. Also, without ground-truthing, SPR cannot be sure what it is that they are prioritising avoidance of.
- 60 A robust assessment should be undertaken so that the significance of heritage assets can be properly understood.
- 62 SPR has only identified currently known assets at present.
- 63 The importance of below ground remains are currently not known as insufficient assessment has been carried out by SPR to define these. The potential impact and harm on the unknown assets therefore also cannot be determined.
- 72 Without full assessment, SPR should as a precaution work from the basis that all below ground heritage assets are of high importance, as they have not the evidence base to demonstrate otherwise.
- 84 It should be noted that below ground assets where impacts are graded as minor because they are local in a matrix would still require archaeological recording.
- 86 The Councils would again emphasise that further survey and evaluation is required pre-consent- preferably all evaluation should be complete at this stage, with only mitigation left to post-consent. This would allow a clear mitigation strategy for the whole of both schemes to be presented with the DCO applications, as per the requirements of policy. The approach also does not allow the projects to be timetabled. The ES should set out the how the timings are included in the projects and where flexibilities are.
- 91 Given other major projects in the immediate vicinity, landscape scale archaeological impacts will occur.
- 94 Features which geophysics is unable to detect remain unknown and the nature and significance of anomalies identified so far is not understood.
- 24.5.3 Whilst a precautionary approach is set out generally, on a point of technicality, we do not have sufficient information to judge significance, and the potential significance could be argued either way until this is available. Assessment of the potential significance of archaeological heritage assets and a lack of acknowledgement that there could be elements of high significance therefore appears weak or underplayed.
- 112 Known above ground heritage assets e.g. earthwork features and military remains are already recorded.
- 113 High potential for additional, as yet unrecorded sub-surface remains.
- 114 We would argue that potential is high for all periods given the number of known remains, the geophysical survey results so far, topography, geology etc. The DBA does not sufficiently set out the potential for archaeological remains. There is high potential for prehistoric settlement and funerary remains, Saxon potential is entirely

overlooked and there is also high potential for medieval occupation and religious/funerary sites.

- 115 Prehistoric funerary monuments are likely to also be able to be detected through geophysical survey. Key fields adjacent to upstanding funerary monuments have not yet been surveyed. Later prehistoric/Roman sites may not be detected if sites are unenclosed, plus un-monumental funerary remains would likely be missed-nationally important sites might be present. What about Saxon sites? Given there is a recorded medieval chapel site and cemetery (KND 009), there is potential for nationally important remains. This area has not yet been surveyed either which is essential.
- 116 The sub surface archaeological potential will not be fully understood in terms of full below ground resource or nature/significance of remains without trenching.
- 119 and Tables 24.13 above ground archaeological remains require full systematic earthwork recording and assessments of significance by those with appropriate specialist knowledge of the asset types, not just site walkovers.
- 25.5.3.4 It is clear that a high level of uncertainty remains regarding the nature, extent and significance of below ground remains and therefore the impacts of proposals, due to inadequate archaeological assessment, which does not meet NPS EN-1.
- 124 The former site of a church or chapel north of Friston should be assigned high significance as it could be nationally significance e.g. worthy of scheduling.
- 125 Without full assessment, if using a precautionary approach, SPR should work from the basis that all below ground heritage assets are of high importance, as they have not the evidence to demonstrate otherwise.
- 127 Prehistoric funerary monuments, especially if forming part of cemetery associated with upstanding Scheduled monuments, have the potential to be considered as nationally significant.
- 128 SPR are currently asking that planning decisions are made on uncertain information which may change on the basis of further assessment, which is surely not rigorous enough for such a major development that will have significant and permanent impacts upon above and below ground heritage assets.
- 130 This section of the report does not provide comment on the geology and soil types, and the different complexities of archaeological remains – for example, site towards river valleys may involve complex deposit sequences.
- 134 Preservation of above and below-ground archaeological remains in any areas which have not been heavily ploughed is likely to be excellent. Ploughing may have caused come truncation, however, archaeology still survives well in many arable areas across the county.
- 136 The Councils would urge caution in relation to the argument that development creates opportunities to further enhance the archaeological records - paragraph 199

of the NPPF includes the sentence 'the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted'.

- 140 Total destruction through removal of heritage assets through these infrastructure schemes will have a greater impact than the other issues outlined here, even if mitigated through recording.
- 148 The Councils argue that there are also additional activities which could cause direct impact to archaeology: removal of subsoil, water management areas, planting and landscaping areas, spoil storage areas, new access areas, highway improvement works, haul roads, construction, compounds, bentonite breakout and clear-up, decommissioning etc.
- 150 The significance of assets should also be considered high as the impact cannot yet be determined, but being precautionary, SPR should assume that impacts will be high.
- 152 Only partial understanding can be achieved through the proposed pre-determination works therefore we think these are insufficient and full assessment should be required. Only some below ground heritage assets have been identified so far. SPR has not committed to undertaking any other assessment than geophysical survey pre submission which is not supported.
- 24.6.1.1.1 Insufficient assessment has been undertaken to determine the full scope and significance of heritage assets and therefore the impacts of different elements of the schemes. Many of the statements presented in this section are assumptions based upon insufficient assessment to support these conclusions. The potential for additional as yet unknown remains is also not clearly set out. There are additional elements of the projects which have the potential to impact upon archaeological remains which are not considered here as set out above.
- 160/165 We would again highlight that the former chapel site may be nationally significant.
- 162 The mill could be medieval.
- 168 The Councils would request consideration is given to the unknown remains which may be worthy of preservation in situ. The significance of features already identified during DBA and geophysics is not yet understood to inform understanding of which features are worthy of avoidance. SPR must consider how avoidance of features which may be found in critical areas of the schemes with limited flexibility would be managed.
- 169 SPR must include within the embedded mitigation completion of geophysical survey and earthwork surveys and also trial trenching, metal detecting and field walking, at least in key areas of the schemes and areas of high archaeological sensitivity. If nationally significant remains are identified post-consents the option for preservation *in situ* may no longer be possible if schemes designs has been finalised. Evaluation WSIs must be agreed.

- 170 Outreach strategies should also be considered. We would like to see proposals for outreach and engagement of archaeology and heritage set out, including current excavations, disseminating the results, and legacy heritage and enhancement projects. This should be considered as S106 community benefits and compensation packages are brought forwards. Works undertaken at Hinckley Point may offer ideas:https://archaeologyathinkleypoint.wordpress.com/website-links/
- 171 The measures adopted by SPR in relation to archaeology should be agreed with the Councils and requires approved WSIs to be put in place.
- 172 Unless there is no choice but to excavate features of high significance which would more appropriately be preserved in situ. For any remains of particularly high significance for which preservation in situ is appropriate, recording would not be adequate mitigation to offset harm.
- 173 It should be noted that SPR do not yet know the full extent of remains which need avoiding.
- 178/182 Many military features are of high local/regional importance, given the important role that Suffolk played in coastal defence, with significance increased through survival as upstanding remains. We advise preservation in situ/avoidance as best practice; therefore, full pre-consent assessment is needed. Significance may vary for different elements of the remains, and this has not been assessed by someone with appropriate specialist knowledge.
- 191 Earthwork condition surveys need to be completed pre-consent to inform design.
- 195 If upstanding archaeological remains are destroyed this will result in a major impact, especially for any remains of particularly high significance for which preservation in situ is appropriate as recording would not be adequate mitigation to offset harm.
- 205/206 SPR must consider whether impacts on archaeology would be reduced in the circumstances where best practice would be to preserve remains in situ but this is not possible, especially given many of these high potential areas are in key sections of the route where flexibility if likely to be limited. Impacts would therefore be major and not be able to be offset.
- 210 Lessons need to be learnt from EA1 where spillages and leakages from equipment impacts on archaeology was a serious issue. There is on-going review from the EA1 project on the severity or otherwise of the impact of bentonite breakout, which should be considered in the ES.
- 23 The undertaking of new planting for screening purposes will have below ground impacts and require archaeological assessment/mitigation.
- Table 24.15 Impacts may be higher if preservation in situ as an option isn't a possibility but would have been appropriate and therefore preservation through record is the only mitigation option left available.

- 245 Given other major projects in the immediate vicinity, landscape scale below ground archaeological impacts are likely to occur.

Appendix 24.1: DBA:

The Councils request a number of amendments/additions to the DBA are made for the version that is submitted with the ES, as set out in the comments below:

- The DBA should be updated to include an assessment of the new additions to the onshore development site area which were not already covered by this study.
- The DBA has looked at all the data requested but assessment could be stronger- proper allowance is not made for the potential that remains of high importance may be present given the limited previous archaeological survey in the study area.
- Combining archaeological DBAs with setting studies can be confusing, although they need to cross-correlate and be informed by each other. Moving forward for the ES, the structure of the chapters could be discussed with Historic England and the Councils.
- There is also no interpretative consideration of areas with high potential in terms of topography and geology as we requested e.g. potential of river valley areas.
- Additional elements of the projects such as highway improvement works, new access roads or water management areas etc which are now included in plans should be fully considered as part of the DBA and included in field assessments.
- We are pleased the DBA discusses ground truthing through geophysics and trenching, although we have also advised other field assessments and the need for a proper systematic recording survey for earthwork features.
- Page 7 Assigning low importance values to assets of local importance does not rule them out from consideration/mitigation.
- Page 8 Negligible importance will still require evaluation, unless there is a strong reason to assign it as negligible.
- Page 9 This topographic account should be followed up and drawn through into the analysis. SPR should identify whether there are any areas needing paleo-environmental assessment or monitoring which can be identified e.g. Aldringham river crossing.
- Page 9 ARG 020 entry in the HER states the chalk ring feature could be medieval –it is very unlikely to be Lower Palaeolithic. LCS 148 relates to a medieval site.
- Page 10 KND 009 needs mapping on Figure 3. It needs further discussion of the confusion about where Buxlow/Buxton may have been in the Historic Environment Record (HER) data (could be two separate sites). SPR should consider whether there are any field names in the tithe apportionment that are of interest.
- Page 16 the feature, at 65m long, is very big for a chapel. For context, this is about the same size as St Mary's in Bury St Edmunds, which is one of the longest parish

churches, and was a large, wealthy urban parish. Further comment on the size and scale would be beneficial.

- Page 23 (3.6) the site walkover report is very cursory- a systematic earthwork survey assessment is needed. More detail is needed regarding surviving coastal defences and other World War II (WWII) features. Also, further details on what earthworks were visible in Grove Wood and in relation to areas of pre 18th Century landscape and surviving landscape features.
- Page 24 this underplays prehistoric sites which are known to include barrows. There is high potential for further prehistoric remains in this landscape including additional funerary monuments, especially adjacent to Aldringham Green and common.
- Page 24 until evaluation has been undertaken; significance cannot be ascribed to a possible church/chapel site. It could turn out be of national importance for a number of reasons (including, for example, quality and condition of human remains, structural remains). Commentary on whether tithe map names add anything to this field or the one identified from aerial photography (page 16). Again, 65m long is very big for a chapel (we would argue too big, but if the DBA suggests that this is the chapel site, it needs further explanation).
- Pilgrims Way is a historic trackway recorded as running through the substation sites which has been flagged by local stakeholders, as this feature is not currently recorded on the County HER – further research regarding this historic landscape feature should be looked into.
- Page 24 We disagree with the final paragraph and also the assignment of importance in table 3- there are information gaps and assigning low value at this stage should be heavily caveated. To assess significance the DBA would need to systematically look at each asset type and clearly specify what would make it of low, medium and high importance, and tied in to national and regional research agendas. Without evaluation, the nature and significance of these sites cannot be understood. Additionally, what about currently unknown remains, barrows and the chapel site for examples of sites of potentially high significance. Also, WWII remains may be nationally significant but is underplayed in the DBA and needs more discussion of the individual elements of it. Key sites could require preservation in situ. The DBA should also think about distinctiveness/what is important regionally. Also, consideration should be given to remnants of historic landscape that might be affected.
- Page 24 it would be helpful if there were phased maps and a period by period assessment of background, character and potential, based on topography e.g. links to Hundred River Valley, moor edges etc. This analysis is promised in section 2.6 but not delivered. Deposit models should also consider areas of paleo-environmental potential and intertidal areas – these are areas of highest complexity. This should be discussed and flagged.
- Page 33 121 *currently known* heritage assets.
- Page 33 Aerial photography analysis refined knowledge of cropmark features.

- Page 33 the potential for Neolithic/Bronze Age remains is not discussed. Potential is high given we have barrows plus cropmark ring ditches and plenty of prehistoric archaeology now recorded on sites within and around the study area.
- Page 33 The Councils request justification regarding the statement that medieval sites are only of local importance. We do not know anything about them as insufficient assessment has been undertaken There is clear potential for settlement and other activity as well as just agriculture based upon known remains.
- Page 33 Also post-medieval features are not mentioned here although we know there are a lot in the study area and some of the features which survive as earthworks etc are of higher importance as a result of that.
- Page 34 this assessment should be caveated as based on known information only, but some areas within it topographically can be said to be of higher potential.
- Page 47 Impacts of roads, compounds, ditches, bunds, drill sites, water management, landscaping, planting etc should be considered.
- Page 47 There is a lot more information on and references for coastal defences. These have not really been adequately described and deserve more detail. SPR should investigate whether there is an any of higher significance
- Page 47 Impacts on other earthworks and also areas of pre-18th century enclosure should be considered.
- Page 48 Impacts on up to 124 *known* designated assets, and an unknown number of unknown assets which need to be fully assessed through field evaluation. The Councils are of the view that WWII remains also need better assessment.
- A summary of what is unknown and what field evaluation will establish would be useful, as well as the further assessment needed to fully understand the heritage resource within the onshore development area. The DBA should map areas where it can already be identified that routing might need to be considered.

<u>Appendix 24.2: Geophysical survey:</u>

- We look forward to receiving the full report in line with the approved WSI in due course, on completion of the survey.
- It is essential that the outstanding 60ha (plus any additional elements of the schemes which have since been added into the onshore development area) are surveyed as soon as possible. The fields immediately east of the Aldringham crossing are particularly archaeologically sensitive and a critical area of the schemes. The site of the possible chapel at Friston has also not been surveyed despite now being included in the onshore development area.
- We are pleased that the survey report notes the likelihood for additional remains to be present which have not been able to be detected by geophysical survey. More ephemeral features such as unenclosed settlement or burials are unlikely to be detected but may be of high significance.

- Interpretations made so far are preliminary. We would heed caution regarding over-interpreting anomalies identified without ground truthing to confirm nature and date.
- We also note that most focus has been paid on the stronger anomalies defined as probable archaeology. The fainter features defined as possible archaeology haven't been discussed, but the differential signals may reflect different geological influences rather than indicating less well preserved or less important remains. We would again warn against disregarding these features.
- Further analysis should consider whether different geologies across the schemes are yielding differential results.
- Results should be directly compared with the DBA concerning which features identified represent features already recorded and those which are new discoveries.
- SPR should give further consideration to whether the geophysical survey identified boundaries and features shown on the tithe maps presented in the DBA.
- Plans should also include a scale showing the greyscale parameters used.

Appendix 24.5: CIA

- This states that no above ground archaeological remains have been identified, which needs correcting in the ES. See above for comments on need for earthwork survey and survey of World War II features.

Appendix D – Water Resources and Flood Risk – Construction

1 The catchment contributing to the Main River through Friston is estimated as 1.5km^2. This is based on the catchment extending to the boundary of the WFD River Catchment Area and being confined by Saxmundham Road and Grove Road. Whilst this is a simplistic approach it is the only one available without access to more accurate information (LiDAR/topographical surveys). This area is shown in red in the below screenshot, Figure 1.

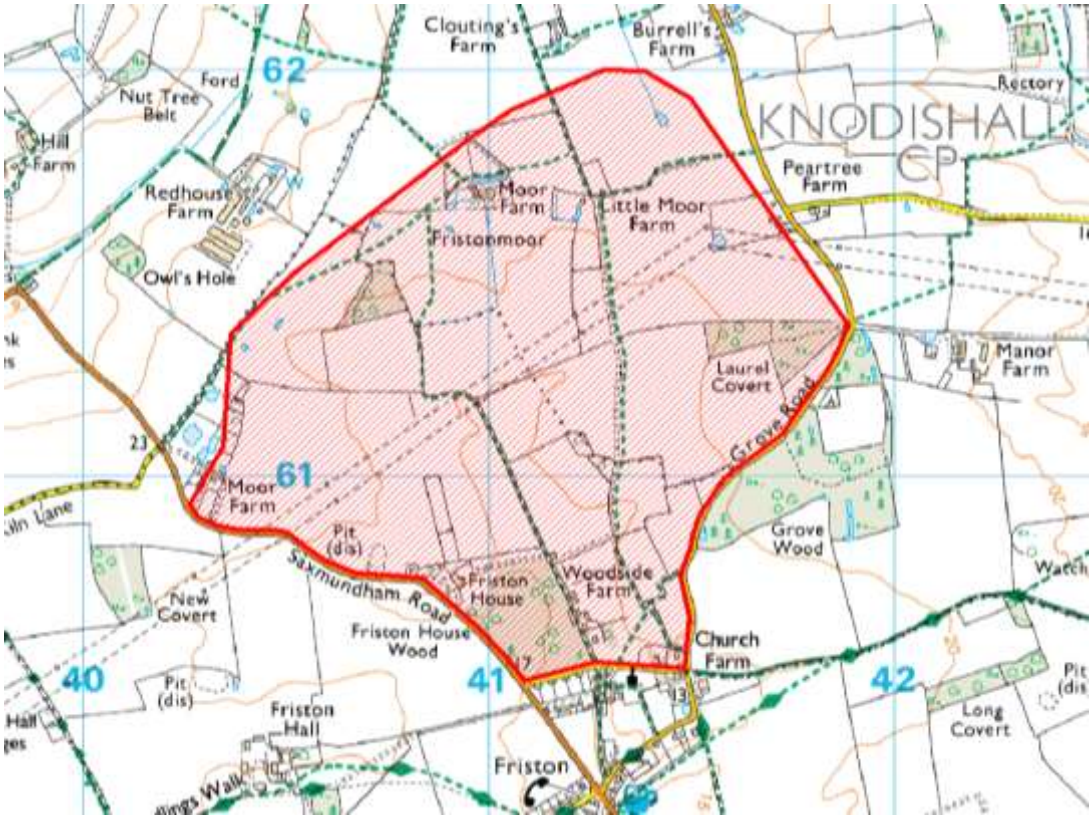


Figure 1 – Estimated catchment of the Main River through Friston

Sediment Supply

2 The PEIRs (Ch.20, Table 20.15), contains details of the 'Estimated Maximum Area of Disturbed Ground in Each Water Receptor'. Friston Watercourse is shown as having a disturbed area of 229,290m^2 (0.22929km^2) which equates to 3.8% of the total catchment. No breakdown of this area or comparison to the quoted catchment is provided. It should be noted this is for EA1N only.

3 Table A20.3 (Ch.20, Appendix 20.4), assess the impact of the both EA1N and EA2 being built simultaneously. This gives an 'Estimated Maximum Area of Disturbed Ground in Each Water Receptor' of 316,904m^2 (0.316904km^2), which equates to 5.28% of the total

catchment. Again, no breakdown of this area or comparison to the quoted catchment is provided.

4 Table 1 has been made using data provided in Chapter 20, Appendix 20.4, Table A20.1 in conjunction with Chapter 6, Figure 6.6i. It should also be noted that Chapter 20, Figure 6.6i shows an "Indicative National Grid Pylon Relocation CCS" & "Indicative National Grid Cable Sealing End CCS". It is not clear if the area for these CCSs has been allowed for in the area given for the National Grid CCS. If not, then these areas should be added to the below cumulative area, as should the substation construction access.

Table 1 – Construction areas in the estimated catchment of the Main River through Friston

Areas	Size (m)	Area (m^2)	Cumulative area (m^2)
NG substation	325 x 140	45,500	45,500
NG CCS	250 x 315	78,750	124,250
EA1N substation	190 x 190	36,100	160,350
EA2 substation	190 x 190	36,100	196,450
CCSs	190 x 90 (x3)	51,300	247,750
Access Road	1,600 x 8	12,800	**260,550**

5 When compared to Table 1, the area used by SPR appears to be conservative, which is encouraging. However, we would like to see a breakdown of the area they've used.

6 Using the cumulative area from SPR Table A20.3 (0.316904km^2) and the estimated catchment of the Main River through Friston (1.5km^2) it's possible to estimate the maximum area of disturbed ground in the estimated catchment of the Main River through Friston is 21.13%. This is far greater than the 3.8% stated in Chapter 20, Table 20.15 and the 5.28% stated in Appendix 20.4, Table A20.3.

7 The potential conflict in figures is also relevant to Chapter 20, Section 20.6.1.3 Impact 3: Accidental Release of Contaminants.

Water Resources and Flood Risk – Operation

Area of Development

8 Chapter 20, Table 20.19 details the 'Maximum Area of Permanent Development in Each Water Receptor'. The area identified in the 'Friston Watercourse' catchment is 96,380m^2 (0.09638km^2) which equates to 1.6% of the total catchment. No breakdown of this area is provided. It should be noted this is for EA1N only.

9 Chapter 20, Appendix 20.4, Table A20.4 assess the impact of the both EA1N and EA2 being built simultaneously. This gives a 'Maximum Area of Permanent Development in Each Water Receptor' of 137,660m^2 (0.13766km^2), which equates to 2.29% of the total catchment. Again, no breakdown of this area or comparison to the quoted catchment has been provided.

10 Table 2 has been made using data provided in Chapter 20, Appendix 20.4, Table A20.1 in conjunction with Chapter 6, Figure 6.7l. This table identifies the operation areas located in the estimated catchment of the Main River through Friston (as developed in Section 3.5 of this response). Scaling from the plans provided, it has been estimated the area of SuDS to be 20,000m^2.

Table 2 – Operation areas in the estimated catchment of the Main River through Friston

Site	Size (m)	Area (m^2)	Cumulative Area (m^2)
NG substation	140 x 325	45,500	45,500
EA1	190 x 190	36,100	81,600
EA2	190 x 190	36,100	117,700
Access road	1,600 x 8	12,800	130,500
SuDS		20,000	**150,500**

11 Using the cumulative area calculated above (0.1505km^2) and the estimated catchment of the Main River through Friston (1.5km^2) it is possible to estimate the operational areas in the estimated catchment of the Main River through Friston is 10%, including SuDS. This is far greater than the 1.6% stated in Chapter 20, Table 20.15 or the 2.28% stated in Appendix 20.4, Table A20.4. This demonstrates that the information contained in the PEIRs fails to assess the increased surface water flood risk to Friston.

Embedded mitigation

12 The Councils welcome the proposals to produce a CMS for construction activities. The EA PPG and CIRIA C532 are acceptable documents to use in developing the CMS. Six bullet points are listed to demonstrate what measures will be included in the CMS. These points are encouraging but do not contain enough detail to comment on any further at this stage. Reference is made to a "site drainage system", however, details of this have not been provided as part of the published consultation documents. We note a SWDP will be developed as part of detailed design. We encourage SPR to liaise directly with Suffolk County Council as Local Lead Flood Authority during the development of the SWDP.

13 The use of “permeable gravel underlain by geotextile” on temporary works areas for a minimum of 50% of the total area is proposed. Although not stated, this is presumably to reduce the potential for silt laden run off. It should be noted that although the gravel may be permeable, we would view this surfacing as an impermeable area. Due to the nature of construction operations, the geotextile is likely to become blocked with silt at some point in the duration of construction with no obvious remediation measure. Therefore, we expect these areas to be included in impermeable area calculations when sizing SuDS to accommodate surface water run-off.

14 The use of SuDS must be prioritised (as per NPS EN 1) both during construction and operation. We note the intention is to comply with the SuDS discharge hierarchy. Reference is made to the discharge of water “into local ditches”, this is contrary to a SuDS approach which is likely to be feasible across large areas of the construction site due to the sandy nature of local soils. Furthermore, the treatment of water pumped from excavations should utilise SuDS methods wherever possible. If infiltration is not feasible and local watercourses are used there must be an assessment of their flow path and existing flow capacity to ensure there is no increase in off-site flood risk.

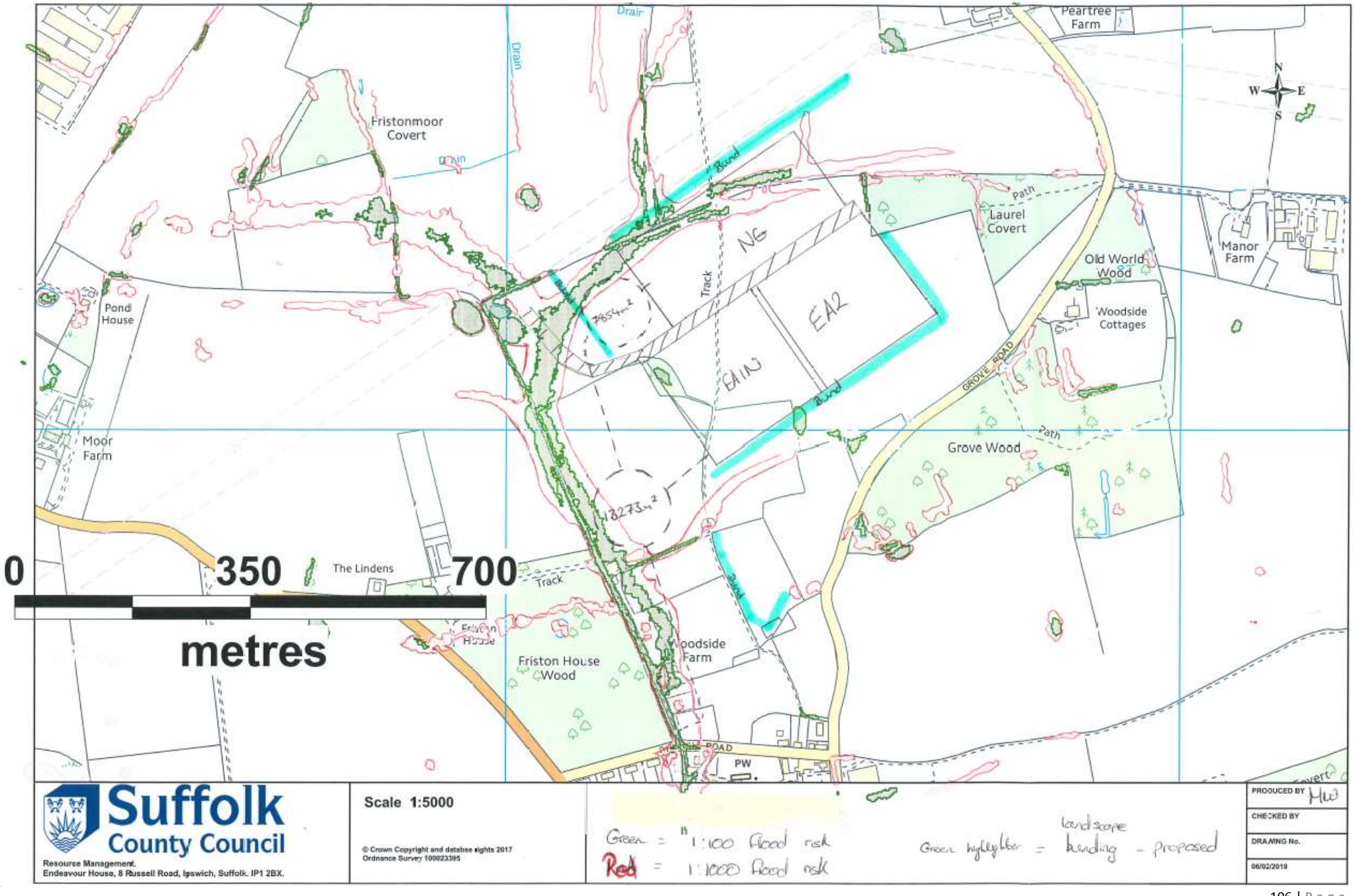
15 Chapter 20, paragraph 120 identifies a potential impact to geomorphology and in-land habitats during the operation phase if surface water is “discharged at a discrete location within the existing surface drainage network”. This is equally applicable to the construction phase. It’s unclear what mitigation has been applied to negate this potential impact.

16 The storage of fuels, oils, lubricants and chemicals away from watercourses is positive. As is the location of concrete, cement mixing and washing areas. The storage of material stockpiles must not be in close proximity to watercourses, as opposed to ‘where possible’ (Chapter 6, para 352).

17 It should be noted that if both EA1N & EA2 are granted consent, the construction phasing will have a major impact on the area required for SuDS. Simultaneous construction would require a much larger area to be used for SuDS to accommodate the surface water generated by impermeable surfaces. The fact that greater areas of land would be required are not a reason to negate the prioritisation and use of SuDS.

18 Overall, whilst the examples given and the indications are positive, the detail regarding embedded mitigation is to be provided at a later stage. It is therefore not possible to comment on its acceptability, or whether it provides sufficient mitigation as part of the PEIRs assessment.

Figure 2 – Sketch over lay of 1:100 & 1:1000 surface water flow paths with proposed SPR substation infrastructure



Flood Risk Assessment

19 NPS EN-1, paragraph 5.7.5 sets out minimum requirements for FRAs. These are quoted below and have been coloured using a Red, Amber, and Green (RAG) system based on how the Councils determine the submitted FRA has complied with this requirement.

"The minimum requirements for FRAs are that they should:

- *be proportionate to the risk and appropriate to the scale, nature and location of the project;*
- *consider the risk of flooding arising from the project in addition to the risk of flooding to the project;*
- *take the impacts of climate change into account, clearly stating the development lifetime over which the assessment has been made;*
- *be undertaken by competent people, as early as possible in the process of preparing the proposal;*
- *consider both the potential adverse and beneficial effects of flood risk management infrastructure, including raised defences, flow channels, flood storage areas and other artificial features, together with the consequences of their failure;*
- *consider the vulnerability of those using the site, including arrangements for safe access;*
- *consider and quantify the different types of flooding (whether from natural and human sources and including joint and cumulative effects) and identify flood risk reduction measures, so that assessments are fit for the purpose of the decisions being made;*
- *consider the effects of a range of flooding events including extreme events on people, property, the natural and historic environment and river and coastal processes;*
- *include the assessment of the remaining (known as 'residual') risk after risk reduction measures have been taken into account and demonstrate that this is acceptable for the particular project;*
- *consider how the ability of water to soak into the ground may change with development, along with how the proposed layout of the project may affect drainage systems;*
- *consider if there is a need to be safe and remain operational during a worst case flood event over the development's lifetime; and*
- *Be supported by appropriate data and information, including historical information on previous events."*

20 The above shortcomings identified in this RAG assessment solely relate to the failure of the FRA to adequately assess surface water flood risk in relation to Friston. A comprehensive assessment of this risk, including details of potential mitigation measures and the residual risks, combined with a detailed assessment of how the

proposed development interacts with existing surface water flow paths, would make a significant contribution to improving the overall RAG scoring.

Appendix E – Traffic and Transport

Transport Assessment Method and Threshold Selection

Assessment Method

1. Whilst, the Councils recognise that the GEART methodology has been used to identify locations where impacts would occur as part of the PEIRs the Councils would not expect this method to be used as part of the DCO submissions, as it fails to properly consider the exact nature of any impact, a small impact in one location can be far more significant than a large impact in another. The Councils would expect SPR to follow transport related guidance such as WEBTAG during preparation of the Transport Assessment.

2. Whilst a 10% increase in traffic flow may not have a discernible environmental impact, it could still have significant impact on the operation of a junction. Given the impacts set out within the report, due consideration should be given to the operation of the B1119/B1121 signal junction in Saxmundham and the B1119/ B1069 signal junction in Leiston.

Severance

3. GEART suggests that changes in total traffic flow of 30%, 60% and 90% are considered to be slight, moderate and substantial respectively. As stated previously Councils would not expect this method to be used as part of the DCO submissions as it fails to properly consider the exact nature of any impact most notably where crossing opportunities for sustainable transport users were reasonable, the gaps in traffic become more infrequent and lead to greater risks. For severance the assessment also fails to consider the facilities that are in place at the location, such as narrow footways and lack of crossing facilities, which may mean impacts are more acute.

Pedestrian / Cycle Amenity

4. GEART suggests that a threshold of a doubling of total traffic flow or the HGV component may lead to a negative impact upon pedestrian amenity. Again whilst, the Councils recognise the use of GEART they would not expect this method to be used as part of the DCO submissions as it fails to properly consider the exact nature of any impact, most notably where there is a greater presence of vulnerable road users. The assessment also fails to consider the facilities that are in place at the

location, such as narrow footways, absence of cycleway and lack of crossing facilities, which may mean impacts are more acute.

Trip Distribution (26.6.1.3)

5. To inform the potential distribution of construction employees for the proposed projects, the availability of local labour and rented accommodation has been reviewed as part of the socioeconomics study to inform the potential employee distribution. This evidence has not however been shared with the Councils. The PEIRs states that 34% of the workforce would be drawn from the local area (known as 'resident' labour). The remaining (66%) of the workforce would be beyond a daily commute (known as 'in-migrant' labour).

6. Personnel who are not currently living locally (in-migrant labour) i.e. beyond a reasonable daily commute (up to a 45 minute drive from Leiston) are likely to base themselves within temporary local accommodation. To inform the distribution of in-migrant labour the availability of local rented accommodation within a 45 minute commute of the proposed projects has been captured. Tables 26.17 provide a summary of likely distribution.

7. While it is accepted that it is typical for construction projects that employees will travel to work together and in contractor provided vehicles the ratio of employees to vehicles is not accepted. The PEIRs suggest that an established industry exemplar of Heathrow Terminal 5 (BAA 2003, Terminal 5 Construction Workers Public Transport Strategy 2003 / 04) established that a car share ratio of 3 employees per vehicle was achievable. The Councils do not consider that a large scale nucleated urban project can be compared to a dispersed rural scheme. Whilst a car share factor of 1.5 was previously agreed, this was prior to information from Hinkley Point C being available and indicating a far lower car share factor (in the order of 1.2). The car share factor that is used within the final Transport Assessment will need to be appropriately evidenced and controlled through demand management as set out as appropriate through NPS EN-1. The ratio does not take into account the propensity for employees to walk, cycle or use public transport or the limitation of car parking on site. The Councils consider that this would be at a maximum 7.4% of resident and 26.4% of non-resident workers.

8. There is a risk that the potential combined traffic flows on the A12 are over estimated by assigning traffic flows for seven sites of peak activity. To assess the 'in-combination' worst case approach in context for the impact assessment, it has been established that a peak programme demand of 331 (two-way) vehicle movements per day (i.e. 166 arrive and 166 depart) all of which have an origin on the A12).

However, the worst-case month impact would be 254 two-way HGV movements per day. It has therefore been agreed that for the A12, a worst-case month period is adopted.

9. SPR has set out in tables 26.21 for both projects the specific access points associated with the infrastructure components. The tables identify two options for the landfall site, option 1 via Lovers Lane and B1122 and option 2 via A1094 towards Aldeburgh, heading north on B1122 and then on B1353. The Councils preference would be option 1.

10. The proposed access strategy is promoted for all employees with the exception of the National Grid employees. These employees would instead access from access 12, the B1121 link 5 (to the north of Friston) once this access is available. The Councils were not aware that any vehicles were to gain access from the B1121 during construction.

Traffic Assessment

Traffic Data

11. The Councils are satisfied that data collected from traffic surveys (Tables 26.7) is acceptable. Section 26.6.1.3 of the PEIRs identify that as the procurement process has not yet commenced the assessment has assumed 100% of traffic from the north and the south. This method of assessment is considered robust as it assumes all HGV traffic could arrive from either direction. In order to undertake a 'worst case' assessment of the number of HGVs on the road network, an in-combination worst case peak has been assessed; this takes into consideration the peak impact at all seven sites.

12. The assessment also splits HGV traffic over a ten-hour period, rather than the proposed twelve-hour period of operation for robustness. Construction workforce shift patterns have been assumed to overlap with the PM peak hour. The assessment also sets out that it assumes as fast a project construction as reasonably possible, meaning that the HGV movements are contracted over as short a time as reasonably possible. Evidence of construction shift patterns from EA1 should be provided to identify whether the construction shift patterns also overlap with the AM peak hour, if so, an assessment should be undertaken of the development impacts for the AM peak hour.

13. As set out at within NPS EN-1 demand management measures should be used to reduce the transport impacts of development, the proposals include restricting route choice for HGVs to the following:
    - A12 then A1094
    - A12 then B1122

14. The Councils will require planning requirements to
    - Control the absolute number of HGV movements for any given day as well as ensuring the average number of movements does not exceed that assessed within the DCOs Transport Assessments for any three-month period during peak construction.
    - Control the routing of HGV traffic to the routes assessed to ensure that the impacts on the road network do not exceed those assessed within the Transport Assessments.
    - Control the number of peak hour HGV movements to ensure that the impacts on the road network do not exceed those assessed within the Transport Assessments.

15. As stated previously, the Councils would like to understand what method would be used for controlling HGV routes and what monitoring and controls will be put in place, as is as identified as appropriate through NPS-EN1.

16. The estimates of the local labour force indicate 34% of the workforce would be drawn from the local area and 66% would be in-migrant labour. The potential workforce origins have been assessed based on a 45-minute drive time for in-migrant labour and a 60-minute drive-time for resident labour and includes for distance decay (the further the distance the less attractive). In principle, this is considered an acceptable method of assessment based on the currently understood workforce requirements (i.e. an approximate peak 250-employee workforce for a single project). However, consideration may need to be given on the implications of Sizewell C on the origins of the workforce.

17. Section 26.6.1.4 sets out that traffic volumes have been calculated using first principles based on material quantities and personnel numbers required and converts these to vehicle movements and in principle this method of assessment is accepted. Tables 26.19 indicate a peak daily demand in month five of 254 HGV movements, while Tables 26.20 indicate a peak calculated workforce demand in month 16 of 269 daily movements. Clarification is sought as to whether this is the average per day across the month, and if so, how much variance from the average potentially exists, and therefore what is the absolute peak traffic impact. The information presented in Appendices 26.21 shows that for scenario 1 an estimated

410 HGV movements is calculated but capped at 322 HGV movements. The Councils note that the scenario 1 figures are not those assessed in the main body of the document. The DCOs should clearly state which scenario has been assessed and in the case of vehicle numbers capped what the control mechanism will be. Use of scenario 1 HGV figures would move link 1 from' low' to' low to high' by increasing the proportion of HGVs from 24% to 30%.

Appendix F - Air Quality

1. *Summary of Key Findings*

1) There is a discrepancy in the version of the Emissions Factors Toolkit (EFT) applied. Within the text (paragraph 52) it states v8.0.1 was used, though reference Department of Environment Food and Rural Affairs (DEFRA) 2017a suggests it was v7.0. This should be clarified, as use of an old EFT would invalidate the Chapters.

2) Further clarification is required regarding the provenance of the Annual Average Daily Traffic (AADT) applied in the Air Quality Chapters, as the values differ slightly from the Traffic and Transport Chapters. This also affects the choice of assessment year, 2024 vs. 2026.

3) The decision to scope out consideration of offshore impacts is considered robust. However, more information is required surrounding the decision to scope out operational impacts within the chapters. It is also considered that the assessment of the decommissioning phase, which was included for consideration within the Scoping Reports, should be more adequately addressed within the chapters.

4) Given the uncertainty in the modelling and the assumptions applied, it is considered that a sensitivity analysis should be undertaken in order to address impacts and concentrations modelled within the Stratford St Andrew AQMA.

5) No justification is given for the exclusion from consideration of the Sizewell Marshes Site of SSSI as an ecological receptor, which lies within 50m of the assessed road network.

6) The Cumulative Impact Assessment (CIA) has a different peak construction year to the individual assessments, even though cumulative scenario 1 determines that both EA1N and EA2 are constructed at the same time. This means different results than would otherwise be expected are given.

7) A moderate adverse impact is predicted in the Stratford St Andrew AQMA. It could be argued that this is significant effect which should be adequately mitigated, particularly given the model is proven to under predict in this area (see verification point 11).

8) There is no map of Stratford St Andrew AQMA. This could be included in the report to clearly show the diffusion tube and receptor locations in relation to the boundary.

9) The assessment has considered data from the local authority's own diffusion tubes including those in Farnham, Stratford St. Andrew, Saxmundham and Leiston. For verification, diffusion tubes along the A12 were chosen. Whilst this is an acceptable approach as these tubes are within the wider study area, there are no monitoring locations around the site itself. It would have been informative if a baseline diffusion tube survey was conducted around the site itself. This would have provided additional data points for verification in the immediate area.

10) It is unclear why two diffusion tube monitoring sites have been excluded from consideration. There should be valid reasons for exclusion, not just that the model does not perform well here. This calls into question the validity of the factor applied.

11) The factor applied under-predicts in the Stratford St Andrew AQMA. The verification process should more adequately address this, which could push the impact to exceeding an Air Quality Strategy objective at Receptor 1 in the AQMA. It is also unclear what the Root Mean Square Error value is.

12) For construction dust impacts, the conclusion is that it is a 'High Risk' site. The chapter is however very non-committal with regard to recommending mitigation measures.

13) There are no discernible differences between the scope and conclusions of the Air Quality Chapters for the EA1N and EA2 schemes.

Sources of Data

2. Generally the data and information used come from suitable sources. Suffolk Coastal District Council/East Suffolk Council monitoring data have been used; meteorological data comes from the closest available site (as is generally best practice); bespoke traffic counts have been provided; and speeds generally inferred from national speed limit.

3. No baseline diffusion tube survey was conducted around the site itself. If this monitoring had been conducted, this would have provided additional data points for verification in the immediate area (as discussed later in Section 6).

4. The latest information sources suitable for Local Air Quality Management (LAQM) Assessments have also been used to model NO2 and particulates (PM10 and PM2.5). These include the following Department for Environment, Food and Rural Affairs (Defra)'s tools; background Maps, NOx to NO2 calculator and Emissions Factors Toolkit (EFT). It is noted that there is a discrepancy in the version of the EFT applied. Within the text (paragraph 52) it states v8.0.1 (the latest available at time of writing) was used, though reference Defra 2017a suggests it was v7.0. This should be clarified, as use of an old EFT would invalidate the Chapters. For the purposes of this review, it is assumed that the reference is incorrect, and the v8.0.1 has been used.

5. Conservative assumptions have been applied to these tools. Defra backgrounds concentrations (2017 used throughout), and EFT (vehicle emissions factors for 2017 for all years) have been applied, where the concentrations and emissions respectively applied would be higher than if the author had adjusted for the assessment year.

6. The AADT values given in Tables 26.22 of the Traffic and Transport Chapters for forecast movements do not correlate with the AADTs specified in Tables 19.11 of the Air Quality Chapters, in which they are marginally lower. It is likely that this is due to differing years presented (2024 in the Traffic and Transport as opposed to 2026 in the Air Quality Chapter), but if so, this should be clarified. If that is the reasoning, then this would invalidate the use of 2026 as the peak construction year, given forecast construction movements are reportedly higher in 2024 (and contradict the assertion stated in paragraph 48).

7. Similarly, the Traffic and Transport Chapters do not mention 2026 as being the peak year for activity. No justification has been provided for why 2026 is assumed as the peak year for air quality as stated in section 19.4.3.1.5 paragraph 48.

8. The traffic flows for Scenario 1 (cumulative impact of EA1N and EA2 projects built simultaneously) as presented in Appendices 19.1 are around 15% - 30% higher than the traffic flows for the schemes on their own. The assumptions behind these flows should be provided, for example to explain why they are not double if both schemes were built simultaneously.

9. The version of the dispersion model applied, ADMS-Roads, is the latest available at the time of assessment.

Scope of the Study

10. It is considered that paragraph 3 requires more information and context. Whilst it is appreciated that there was a Scoping Report prepared, within the Chapters, more justification is required as to why certain stages or impacts (such as operational traffic) are screened out – we are given no information why this is the case.

11. The decision to scope out offshore impacts is considered robust. However, more information is needed regarding operational impacts. Within the Traffic and Transport Chapters, it states:

    "It is anticipated that the onshore substation and National Grid substation would not normally be staffed. During the operational phase, vehicle movements would therefore be limited to occasional repair, maintenance and inspection visits at the substation(s) and annual routine integrity tests of the onshore cable route".

12. This detail, at the very least, should be within the Air Quality Chapters. The planning inspectorate also requested operational phase construction dust be considered, though this was agreed to be scoped out with stakeholders and would therefore generally not warrant inclusion.

13. The Scoping Report also says decommissioning will be assessed in conjunction with construction, though this is all the author states within the Chapters pertaining to this:

    "As such, for the purposes of a worst-case scenario, impacts no greater than those identified for the construction phase are expected for the decommissioning phase."

14. All roads considered in the assessment exceed criteria based on changes to light duty vehicles (LDV) and heavy duty vehicles (HDVs). Criteria from both the Institute of Air Quality Management (IAQM) and the Highways Agency's DMRB have been used, which is considered best practice for schemes of this scale. The road traffic network, receptors and study area have previously been agreed with Suffolk Coastal District Council/East Suffolk Council.

15. It is identified that there are six possible locations for onshore cable route CCSs within the proposed onshore development area. Only one location, considered worst case, has been assessed and corresponding ('high risk') mitigation will be put in place for all other sites. Arguably each site should be assessed individually for more appropriate mitigation recommendations. This could be refined at the ES stage, once more detailed optioning has been undertaken.

16. The affected road network seems to pass adjacent to Sizewell Marsh SSSI (according to Figure 19.3), yet this is not mentioned in the Chapters. It is not clear whether this location has been screened for sensitive habits, and none were found, or whether this is an omission. Either way, consideration of this designation should be presented within the Chapters.

Methodology

17. Generally, the methodology follows best practice and guidance as per technical guidance; LAQM Technical Guidance (TG) (16) and Environmental Protection UK (EPUK) / IAQM planning guidance.

18. The use of 2017 emission factors in 2026, whilst conservative, is likely to be a poor estimation of actual conditions in 2026, though the author does acknowledge the limitations associated with this approach. It is recommended that the assessment should have considered some form of sensitivity analysis, where actual emissions factors and/or background concentrations are applied for the future year. This is relevant for the moderate adverse location within Stratford St. Andrew AQMA, where given high concentrations and modelled uncertainty, the reader would benefit from a greater understanding of the limitations/range of assumptions applied.

19. The peak construction year is considered as 2026 for individual schemes but 2028 for Scenario 1 of the CIA (and 2030 for Scenario 2 which is sequential). It is not clear why the peak (and therefore assessment) year changes. This also means the concentration reported for the DM 'without scheme' scenario varies between the chapters.

Verification

20. Paragraph 56 states:

    "Following the first round of model verification, two diffusion tubes were removed from the verification process (locations FAR1 and ST6) in accordance with Defra technical guidance (Defra 2016), as the difference between monitored and modelled concentrations was greater than 25%"

21. This statement leads the reader to assume the author has simply removed the diffusion tube sites from consideration with no applicable justification for doing so,

thereby falsely achieving a factor deemed acceptable. Defra LAQM.TG(16) actually recommends:

"These sites [where the agreement is greater than ±25%] can then be investigated and inputs to the model may be varied to improve the performance of these sites. Alternatively, these ratios can be used to separate locations which may be street canyons, from more open or typical urban sites, e.g. the ratio is often much higher at sites which could be considered street canyons (as they have limited dispersion) and separate adjustments may be required"

22. It is therefore not appropriate to remove sites from consideration solely due to poor agreement. There must be other valid reasons for disregarding the monitoring data, for example if it has not undergone the correct quality procedures. In terms of specific sites FAR 1 and FAR 2 are opposite each other geographically, yet one is included and one is not. For STA 6, there is no obvious reason given for exclusion.

23. In terms of monitoring locations that are included within the calculation of the verification factor, at STA 8, the model under predicts at this location, where 39 µg/m3 is monitored. Whilst the agreement, at -12.6%, is within the recommended ± 25%, the model is not predicting closely enough in this location to capture the potentially significant impacts associated with high concentrations. Defra state within LAQM.TG(16) that:

"..local authorities are reminded that it is important to check that a model is performing where concentrations close to the relevant objective are being considered. For example, a model may over-predict at background locations, but under-predict at higher concentrations close to the objective. Therefore the average performance of a model is not necessarily a good description of the performance at all locations. Local authorities should consider this as decisions related to declaration of AQMAs may be affected."

24. To support this assertion, high concentrations close to or exceeding the AQS objective (whilst declining year on year) have been reported in three consecutive years at STA 8. Therefore this is not an isolated instance, and the model should better capture this.

25. The recommended course of action would therefore be to further refine model inputs to achieve greater verification agreement within the AQMA and at sites excluded from consideration (if no valid reasons for exclusion can be presented), or to split out the verification process into zones, so that a more appropriate

adjustment factor is applied to areas where poor agreement between modelled and monitored results is identified.

26. The report does not state whether the calculated adjustment factor has been applied to the modelled PM10 and PM2.5¬ concentrations in the absence of any local monitoring data.

27. In addition, an uncertainty calculation of the model's performance is not presented. For example, LAQM.TG(16) recommend stating the Root Mean Square Error (RMSE) as outline below:

    "the RMSE values are higher than ±25% of the objective being assessed, it is recommended that the model inputs and verification should be revisited in order to make improvements. For example, if the model predictions are for the annual mean NO2 objective of 40µg/m3, if an RMSE of 10µg/m3 or above is determined for a model, the local authority would be advised to revisit the model parameters and model verification. Ideally an RMSE within 10% of the air quality objective would be derived, which equates to 4µg/m3 for the annual average NO2 objective"

28. It is considered that a presentation of the location of the AQMAs within the study area, by way of a figure, would aid the readers to understand these issues and the conclusions of significance later discussed. This should include high resolution details of where diffusion tube sites are located, across multiple figures if necessary.

29. Model verification has only included diffusion tubes along the A12. Whilst this is an acceptable approach as these tubes are within the wider study area, it is noted that no monitoring was undertaken around the site itself. If this was conducted, this would have provided additional data points for verification in the immediate area, which may have improved the model's performance.