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PLANNING ACT 2008 (AS AMENDED) – SECTION 88 AND THE INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE) RULES 2010 (AS AMENDED) - RULE 6

REPRESENTATIONS OF THE HISTORIC BUILDINGS AND MONUMENTS COMMISSION FOR ENGLAND (HISTORIC ENGLAND)

APPLICATION BY FIVE ESTUARIES OFFSHORE WIND FARM LTD FOR AN ORDER GRANTING DEVELOPMENT CONSENT FOR THE FIVE ESTUARIES OFFSHORE WIND FARM

APPLICATION REF: EN010115

OUR REFERENCE: PL00667042

REGISTRATION ID: 20049310

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Summary

Historic England do not have an in-principle objection to the proposal. We confirm the applicant has provided a detailed Environmental Statement, which includes the Historic Environment, however, we have identified concerns with the way in which the information has been provided in the ES.

Offshore (Marine) Historic Environment Assessment

The application confirms that the proposal is within a sensitive area for the historic environment and the proposed development area includes several records for wrecks and other obstructions. Furthermore, a high number of potential anomalies have been identified by the project and have been assigned an Archaeological Exclusion Zone.

The Applicant has explained that marine survey programmes including all geotechnical works are proposed post-consent and prior to construction (should consent be secured). We have provided further detail about how survey campaigns should be designed to include the collection of archaeologically specific cores, and that a Written Scheme of Investigation (WSI) will need to be produced that is acceptable to all parties.

We note that the impact assessment presented in the ES relies on embedded mitigation to avoid significant impact. Although they have acknowledged that marine survey works, and archaeological analysis and interpretation will be required post-consent. Assumptions made about effectiveness of avoidance to remove significant impact effects are however predicated on adequacy of all subsequent survey investigations in order to allow for the prosed adaptive mitigation to be effective

It is therefore important that the Applicant acknowledges the risk that this project will encounter both the known and presently unknown elements of the historic environment. We have provided comment below on this matter and provided further comment with regards to the OWSI.

We are very concerned that limited detail has been provided about the spatial proximity of this proposed development (Electricity Export Cable) to HMS E6, which is subject to statutory protection under the Protection of Military Remains Act 1986. We confirm that the Ministry of Defence would be the competent authority for designation and administration responsibilities under the 1986 Act, however the documents provided for the ES need to be updated and we have further comment on this below.

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On-shore Historic Environment Assessment

The application confirms that the proposal is within a sensitive area for the historic environment. The ES confirms the proposal will impact upon a wide range of receptors both designated and undesignated, and that the effects of the scheme could potentially be significant.

Some non-intrusive evaluation work has been undertaken, for example geophysical survey however we have raised concerns about the level of detail that can be provided by these methodologies alone. We believe this is insufficient for size and complexity of the scheme.

In order to provide an effective mitigation strategy non-designated heritage asset within the construction corridor, need to be fully assessed. This is to ensure an appropriate level of significance and value can be determined and assigned. This is best done via a range of techniques, however in our view this should also include intrusive evaluation.

At present the values set out in in the heritage chapters and are view based on a partial assessment, and therefore they are preliminary.

In addition, geoarchaeological and geotechnical information provided appears to have been based on a very low number of interventions.

We note an Outline Written Scheme of Investigation (oWSI) has been prepared and we will also provide further comments on this document in our Written Rep

COCP and Development Consent Order

We have provided further comment with regards to the documents

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Introduction

National Grid connection is proposed at the new National Grid Norwich to Tilbury substation site known as the East Anglia Connection Node (EACN) in Ardleigh.

Landfall compound is at Sandy Point, adjacent to Short Lane, between Holland-on-Sea and Frinton-on-Sea on the Essex coast and will connect to the EACN via onshore underground cables

Project will include

- Up to 79 offshore wind turbine generators (WTGs), associated foundations;
- Up to 200 km of inter- array cables
- Up to 2 offshore substation platforms (OSPs); and
- Up to 196 km offshore export cables, each in its own trench within the overall cable corridor.

This is a full written representation report from the Historic Buildings and Monuments Commission for England (HBMCE) with regards to an application for a consent order for the Five Estuaries wind farm. 'HBMCE' or the 'Commission' is better known as Historic England, and we are the Government's adviser on all aspects of the historic environment in England - including historic buildings and areas, archaeology and historic landscape.

We have a duty to promote conservation, public understanding and enjoyment of the historic environment. We are an executive Non-Departmental public body and we answer to Parliament through the Secretary of State for Digital Culture, Media and Sport (DCMS).

In addition to our remit for the conservation of the historic environment the National Heritage Act (2002) gave HBMCE responsibility for maritime archaeology in the English area of the UK Territorial Sea.

We understand from the information available that the proposed development is for an extension to the existing Galloper Offshore Wind Farm (OWF) with the Five Estuaries wind turbine generators (WTGs) situated within two array areas to the east of the operational Galloper OWF located approximately 50 km off the coast of Essex.

It is anticipated that up to four electricity export cables will be required with cable landfall predicted to be between Holland-on-Sea and Frinton-on-Sea on the Essex coast.

We understand that two WTGs scenarios are included:

- 41 “large” WTGs – maximum rotor blade tip height 395 m above Mean High Water Springs (MHWS); or
- 79 “small” WTGs – maximum rotor blade tip height 320 m above MHWS.

This project is considered a Nationally Significant Infrastructure Project (NSIP) as defined by the Planning Act 2008, and Historic England have been engaged in pre-application discussion with Highways England (now National Highways) since 2016. The preferred route was announced in 2017, and there have been five public consultations (2018, March and August 2020, September 2021 and June 2022).

As set out in our S.56 response we are aware the proposed development lies in a highly sensitive area for the historic environment. The importance of this area from prehistoric times to the modern day has left a legacy of known and unknown heritage assets, many of which would be affected by the scheme.

Historic England has been engaged in pre-application discussions with the applicant’s heritage consultants and our engagement is summarised in the Environmental Statement (ES). The applicant has provided an ES which includes marine and terrestrial Heritage chapters and associated appendices

Historic England considers the baseline data provided in the Cultural Heritage Chapter of the ES and its appendices, to be adequate for the purposes of assessment and for presentation at examination. Although we have raised concerns about the documentation and the approach taken to the assessment.

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1. General Comments

1.1. All the main construction elements of the scheme have the potential to directly and indirectly impact the historic environment. This would include the removal of archaeological remains and features, as well as deposits of archaeological interest. Changes to the local water and burial environment could alter the preservation of archaeological sites.

1.2. Above ground infrastructure would have the potential to impact on upstanding historic environment matters through development within their setting

1.3. As set out in our relevant representation we confirm the applicant has provided a detailed Environmental Statement. This includes Historic Environment chapters. This is separated into marine and terrestrial matters and there are specific chapters and appendices on each.

1.4. We can confirm Historic England has also been party to pre-application engagement and the documents reflect these discussions and are sufficiently detailed for the purposes of this examination.

1.5. As with our remit we have not provided comment on the Grade II listed buildings and we are content to defer to the local authority in those matters.

1.6. We understand that Five Estuaries ('VE') are involved in a project with North Falls Offshore Wind Farm and Sea Link Interconnector to assess the feasibility of cooperation (see section 1.2.4). We also note that the VE proposed Export Cable Corridor (ECC) should be of enough width to allow for micro siting around obstacles and other constraints that may be identified in pre-construction surveys, as well as, allowing room for further coordination regarding export cables from North Falls (as proposed).

1.7. We are aware that a project design envelop approach is being used to provide flexibility in any consent obtained to take account of changes in available electricity generation and transmission technology. We are therefore aware that the impact assessment is based upon scenarios which result in the greatest potential for impact i.e. 'worst-case' scenario and that VE has adopted a Maximum Design Scenario (section 1.3.12).

2. Marine

Volume 6, Part 2, Chapter 1: Offshore Project Description

2.1. Section 1.3.1 we note that the design of the proposed scheme is indicative and would be subject to change. Specifically, decisions still need to be made about the size of the turbines that will be used and the choice of foundations (Sections 1.3.2 & 1.6.1). The full extent of potential impacts of the proposed scheme on the historic environment cannot be fully determined at this time.

2.2. Section 1.4.1 outlines the pre-construction surveys that will be needed and includes a range of geophysical and ground investigations works (Section 1.4.2). We are pleased to see that archaeological features will be assessed as part of this work. It is stated that the results of the survey works will guide the final locations of the wind turbines (Section 1.4.3). The detail of any further surveys and any WSI documents will need to be agreed with Historic England prior to commencement of the surveys.

2.3. It should be noted that some of the works required ahead of the construction may directly impact the historic environment through physically damaging/removing remains, features or deposits. This includes boulder clearance (Section 1.4.5), pre-lay grapnel runs (Section 1.4.8), trial trenching (Section 1.4.14), sand wave and seabed preparation (Sections 1.4.15 & 1.4.20). Final method statements will need to be agreed with Historic England prior to commencement of the surveys.

2.4. Section 1.4.3 We therefore concur with the approach set out, that says that the analysis of preconstruction survey data will inform the final selection process for Wind Turbine Generator (WTG) locations. As well as any requirement for foundation drilling and installation methods for cabling inclusive of burial depth.

2.5. It is particularly relevant that any final micro-siting to be undertaken prior to installation will allow for “minor adjustments” to the development layout to “accommodate unexpected on-site conditions encountered in the pre-construction surveys.” We note the attention given to the following development activities such as Pre-Lay Grapnel Run (width of clearance corridor 30 m), trial trenching (maximum burial depth 3.5 m), sand wave clearance and seabed preparation for foundations e.g. if Gravity Base Structures (GBS) are selected (seabed preparation depth 4 m).

2.6. The ExA would need to be satisfied that a suitable mechanism and wording exists within the DCO requirements to ensure adequate consultation with Statutory Consultees if consent is granted.

2.7. Section 1.6 is clear that the final type of foundation will not be confirmed until the detailed design phase. It is therefore important that the work to inform the risk of encountering archaeological materials within the maximum burial depth is completed. This will require clear consent obligations and appropriately worded requirements

2.8. The important detail regarding potential impact to the historic environment is seabed penetration depth for monopiles could be 68 m (diameter up to 15 m), for multi-leg pin piles embedment depth will be 60 m. Suction caisson foundations will have 25 m penetration and 40 m diameter and multi-leg suction caissons, 25 m penetration and 20 m diameter.

2.9. For Gravity Base System (GBS) foundations, it is clear that "significant seabed preparation" is required to facilitate stable placement of a GBS with base diameter of 55 m and that multi-leg GBS with seabed diameter of 20 m.

2.10. In addition, all consideration of construction must consider impacts associated with Jack-Up Vessels (JUVs) or other specialist installation vessels that deploy anchors.

2.11. Section 1.6.33 states that scour protection may be installed to prevent the erosion of foundation structures. The use of scour protection can result in the development of localised areas of erosion in the area around each turbine where scour protection has been utilised. The potential impacts that this may have on the historic environment will therefore need to be considered and mitigated.

2.12. We are therefore pleased that this issue has been raised as a specific impact in the Offshore Archaeology and Marine Heritage (Volume 6, Part 2, Chapter 11, Section 11.13.49).

2.13. Section 1.12.3 states that trenchless options, such as horizontal directional drilling (HDD) may be used to bring the offshore cables onshore at the landfall location. This approach may directly impact buried archaeology located within the path of the drill, but also at the exit point where a pit will need to be excavated. In addition to the physical impacts of the drilling work, issues associated with the drilling mud (bentonite) need to be considered.

2.14. The potential issues associated with bentonite slurry outbreak will need to be considered in terms of the impact (both direct and indirect) that this may have on any buried archaeological remains.

2.15. Sections 1.17.1, 1.17.3 and 1.17.5 state that different vessel types will be required to construct the proposed development. The location of anchorage points and jack-up

legs will need to respect and avoid known heritage assets and any Archaeological Exclusion Zones (AEZs) that are assigned to an asset.

Volume 6, Part 2, Chapter 11: Offshore Archaeology & Cultural Heritage

2.16. Section 11.2 we note the curatorial responsibilities identified for Historic England as seaward of Mean Low Water Springs (MLWS), and Essex County Council landward of MLWS.

2.17. Table 11.1 we concur with the approach that if geophysical anomaly MA0029 (UKHO Record Reference 14995 for a Vickers Wellington aircraft) does relate to a crashed military aircraft that it must be treated in accordance with the Protection of Military Remains Act 1986. We also note that this table quotes extensively from the Overarching National Policy Statement for Energy (EN-1), published November 2023.

2.18. We therefore note the statements provided by the Applicant in reference to EN-1 and the adequacy of understanding impacts on heritage assets as guided by a "maximum design scenario and relevant activities."

2.19. Table 11.2 it is disappointing that given the comments we provided in response to the PEIR consultation that a substantially edited version was not produced in the ES, a 35-page table is unnecessary. Unnecessary information such as engagement logs could be produced as appendices if required with summaries in the key chapters.

2.20. Section 11.4.3 we do not agree with the identification of Impacts 7, 12, 15 and 18. Historic Seascape Character is not a 'sensitive receptor', it is exclusively a means to understand the context within which heritage assets are located or which could be encountered. Furthermore, historic seascape character should not be included as a 'receptor' in section 11.4.9.

2.21. It is unfortunate that the advice we provided in response to the PEIR consultation regarding how historic seascape characterisation methodology should be used has been ignored. We therefore recommend this section is reconsidered and an erratum issued

2.22. Section 11.6 it is stated that the data received was of "good quality". What 'good' means in this context remains undefined. It is however acknowledged in section 11.6.3 that there are still 'geophysical data gaps where archaeological assessment has not been undertaken'. It can only be concluded that pre-determination evaluation and risk assessment of encountering heritage assets has not been completed.

2.23. It is also important to record at this stage that no offshore geotechnical surveys have been undertaken for the project, as acknowledged at 11.6.8.

2.24. Section 11.7.10 states that the deposits laid down in the marine zone during glacial cycles during the last 500,000 years are of great importance for understanding the localised geomorphological changes of the Essex and Suffolk coasts. The previous archaeological assessments have therefore highlighted the significance and potential of the area of the proposed development.

2.25. Section 11.7.30 states that the site thought to be a military aircraft (UHHO Ref: 14995; Applicant's Ref: MA0029) requires further investigation for confirmation.

2.26. Section 11.7.36 We do not agree with the inclusion of Historic Seascape Character (HSC) as a in section 11.4.11 (2011, England's Historic Seascapes: Demonstrating the Method), which states that HSC "*…takes a holistic view of the historic landscape and can provide context for the often 'point-based'* datasets available for the marine zone."[1]

2.27. Section 11.7.4 describes six records for wrecks and obstructions with one record corroborated by geophysical survey data (MA0001, UKHO Ref: 15865) and section 11.7.5 (electricity export cable corridor) describes 99 records for wrecks, aircraft, obstructions etc with 24 of these records corroborated by geophysical survey data (one aircraft and 16 shipwreck).

2.28. Within both the array areas and cable export corridor preliminary data assessment indicated palaeo-channels with geoarchaeological potential (section 11.7.6). Figures 11.5, 11.7, 11.9 – the referencing system for channels of geoarchaeological potential (MA3003 etc) is unexplained in the accompanying text. Please can this be amended.

2.29. Figures 11.4, 11.6, 11.1.4 should have clearly explained the code reference system used, which is assumed to be UKHO. It is particularly noticeable that Table 11.13 (High potential anomalies seen in geophysical data) clearly provides the MA ID reference (e.g. MA0001), but the UKHO reference (as used in figures) is given within accompanying text description and therefore somewhat concealed, making cross referencing time consuming.

2.30. The inclusion of anomalies within the figures and presently considered to be of low archaeological importance is important, as such anomalies will require further investigation and professional assessment. Several figures include text "St James's Day

[1] https://archaeologydataservice.ac.uk/archives/view/seasmeth_eh_2011/

Fight 1666", which is not explained in terms of archaeological potential or even alluded to in any consideration of the Second Anglo-Dutch Wars in July 1666.

2.31. In reference to HSC broad character types, the Applicant advocates that 'Fishing' is the dominant character type and that the dominant broad character type for the "coastal level" is 'Navigation'. However, we cannot agree with the approach taken by the Applicant here, by not considering cumulate change. Generic consideration of fishing does not allow for appreciation that the physical presence of Wind Turbine Generators and offshore substation(s) will fundamentally affect what type of fishing can be safely practiced.

2.32. Section 11.8.2 states that shallow geophysical and Ultra-High Resolution Seismic (UHRS) data was acquired across the VE array areas and associated export cable route corridor. We note that those data were considered "good" (Section 11.8.3) and therefore suitable to identify anomalies of archaeological interest (as summarised in Table 11.12). In particular, the identification of 234 anomalies assessed as "high archaeological potential, as seen in SSS and MBES data, showing a magnetic return of >100 nT or correlating with UKHO records".

2.33. In addition, 98 anomalies of medium potential have been identified (Section 11.8.6), and low potential anomalies (Section 11.8.7, unquantified number of anomalies). While it is accepted that such anomalies could represent contemporary debris, there is also the possibility that they represent fragmentary remains of archaeological interest.

2.34. Section 11.9.1 states that the geophysical data has also been assessed in terms of geoarchaeological features of interest. It is noted that the area is characterised by complex cross-cutting channels where organic deposits may be preserved, both in the array area and the Export Cable route (Sections 11.9.2, 11.9.3 & 11.9.5).

2.35. These areas have high archaeological potential due to the resources that these sorts of areas offered people in the past. Organic deposits, such as peat are also of high value to archaeological assessments, potentially preserving evidence of landscape and environmental change over time.

2.36. Section 11.9.2 we note that the available survey data indicates well preserved channels and deposits with high geoarchaeological potential are extant within the study area and which are already mapped (e.g. MA3003 and MA3010 to MA3017, as illustrated in Figure 11.17). Corroboration with recent survey analysis produced by North Falls Offshore Wind Farm Project is important and clear objectives would need to be set for

determining geographical association of cross cutting palaeo-channels between these proposed developments.

2.37. We recommend this is a specific task or objective within the Outline Marine Written Scheme of Investigation (OMWSI) and COCP. It is essential that the OMWSI provides an adequate methodological basis for obtaining and using geotechnical survey data, should consent be obtained.

2.38. Section 11.11.4 An Outline WSI has been included in the ES and will form the basis of any future method statements developed post-consent. Our comments on the Outline Marine WSI are below. We are pleased to see that archaeologists will be included in the design and implementation of works carried out for non-archaeological purposes as this will maximise the opportunities to collect evidence.

2.39. Section 11.11.6 states that AEZs will be applied to all known wrecks and obstructions, as well as to anomalies of high and medium archaeological potential. It is also stated that anomalies of low archaeological potential will not be assigned an AEZ but will be avoided by micrositing where possible (Section 11.11.10). If the remains cannot be avoided, then further assessments have been proposed (Section 11.11.11). We support this approach.

2.40. Table 11.15 A preliminary deposit model has been summarised here and Unit 4 (sediments from channel and valley infills) is noted of greatest archaeological potential. The outline deposit model requires further expansion in line with a phased geoarchaeological assessment programme, and this should also be coordinated with North Falls.

2.41. Again, we recommend this is a specific task or objective within the Outline Marine Written Scheme of Investigation (OMWSI) and COCP. It is essential that the OMWSI provides an adequate methodological basis for obtaining and using geotechnical survey data, should consent be obtained.

2.42. Section 11.10 Historic England agree with the approach set out in this section, such as the implications of deploying gravity base jacket foundations and other impacts (as identified in Table 11.16). From our perspective it is the depth and area of seabed excavation that indicates the greatest possible direct impact to archaeological materials on, within and beneath the contemporary seabed. Impacts 7, 12 and 15 are not relevant to this assessment exercise.

2.43. Table 11.17 The proposed development has the potential to directly impact these channel deposits. We note a mitigation strategy has been developed and summarised

here and includes the requirements for a Written Scheme of Investigation (WSI), Archaeological Exclusion Zones (AEZs), Protocols for Archaeological Discoveries (PADs), archaeological assessments and a construction management plan.

2.44. We are pleased to see the mitigation measures set out in Table 11.17 are included as conditions within any draft Deemed Marine Licence, as stated in section 11.11.2. It is also important that the Applicant has acknowledged that implementation of this Marine WSI is mitigation and not just the production of a document (see 11.11.5).

2.45. Regarding the use of Archaeological Exclusion Zones (AEZs), we are broadly content with the spatial extent of AEZs as described in section 11.11.9 (and Figures 11.18-11.20) and the acknowledgement that presently identified low potential anomalies are to be archaeologically assessed. This is only if avoidance is not possible and would be in line with any agreed WSI (section 11.11.11).

2.46. Section 11.11.13 states that there is the potential for previously unknown remains to be present within the proposed development area, which is good to see (Section 11.11.13). Unexpected discoveries will be dealt with using a PAD (Section 11.11.14). We are pleased to see that Temporary Exclusion Zones (TEZs) will be applied to any anomalies while further assessments are being carried out (Section 11.11.15), and again we support this approach.

2.47. We are pleased to see that further archaeological assessments will be carried out pre-construction to investigate remains of interest. This will include geophysical surveys and geoarchaeological assessment of geotechnical investigations (Sections 11.11.16 & 11.11.17).

2.48. It is important to make clear that a PAD does not reduce impact, as impact (i.e. damage, disturbance or destruction) is likely to have occurred. The PAD facilitates efficient communication and decision making and is therefore an off-setting measure. We also concur with the approach set out in sections 11.11.16 – 11.11.19 (Archaeological Assessment of Available Data) and the format of any Post-Construction Monitoring plan (section 11.11.20).

2.49. Regarding the identification of impacts for the array area and ECC, the application of embedded mitigation in all instance's states that “significance of effect has therefore been assessed as minor to negligible and the effect is consequently considered not significant in EIA terms.” This is an assumption predicated on mitigation by avoidance which can only be delivered if adequate archaeological evaluation is completed prior to construction.

2.50. At present we consider insufficient evaluation has been undertaken in order to address this point and a programme of further works will be required. Furthermore, it is unlikely that this project would be able avoid sedimentary sequences of geoarchaeological interest and it should be acknowledged that subsequent access for study will be permanently compromised. The potential magnitude of impact is therefore significant in EIA terms.

2.51. As discussed above, the only way to address this matter is for all the heritage works to be completed prior to construction and prior to all associated preparatory works.

2.52. We do not agree with the inclusion of Impact 7, 12 and 15. It was our advice during pre-application (including the PEIR consultation) that the approach to HSC was reassessed; this has not occurred.

2.53. Section 11.15.37 We do not agree with section. In reference to the attention given to other offshore wind farm developments, the most relevant risk factor is associated with paleoenvironmental material. Avoidance is unlikely to be possible and even if investigations are conducted, access will be compromised and therefore we consider the impact will be significant in EIA terms

2.54. Table 11.24 should have identified this matter as a Residual impact, and we recommend this is amended in any future

2.55. Section 11.18 mentions palaeochannels and palaeolandscapes within the North Sea to stretch beyond international boundaries. The impact on submerged landscapes in those cases is expected to be offset by archaeological assessments of available geophysical and geotechnical data.

2.56. We have previously advised that appropriate reference should be included in the ES about how this might be delivered which is still absent.

2.57. It is stated that specialist archaeological input will be incorporated into the planning and implementation of any additional works, which is good to see. We would recommend that the geoarchaeologist is allowed direct access to any cores recovered as it is better to record and assess continuous core sequences rather than isolated deposits as this allows for greater reliability and confidence in the resulting conclusions. Our view is that this recommendation should be formalised in the CoCP and OMWSI documents.

2.58. Section 11.11.20 It is acknowledged that a post-construction monitoring plan will be produced and that it will set out areas of high archaeological interest and significance.

It will also outline how any post-construction monitoring campaigns will collect, assess, and report on changes to marine heritage receptors that may have occurred during the construction phase. Please see also our comments below on the Outline WSI.

Volume 6, Part 5, Annex 11.1: Offshore archaeology and cultural heritage technical report

2.59. Section 2.4.3 states that the Fugro vessel *Fugro Seeker* was used to carry out the geophysical surveys offshore. A line spacing of between 15-25 m was used, which is in line with the Historic England document 'Marine Geophysics' (2013), which we welcome. The data has been classed as being of 'Good' quality data was recovered, providing the highest probability for marine heritage receptors to be identified.

2.60. Section 2.4.5 and Figure 6.3 summarises the coverage of the geophysical survey to date. This has included survey data collected as part of the Five Estuaries project as well as the North Falls Offshore Windfarm. It is noted that part of the ECC has not been covered by either of the surveys carried out so far. This gap in the survey will need to be addressed.

2.61. Table 2.3 summarises the mitigation measures proposed for the offshore archaeology and cultural heritage. This includes the implementation of measures stated in the Outline Marine WSI, the use of AEZs, PADs, archaeological assessment of available data and the development of a post-construction monitoring plan. These are the standard mitigation approaches that we would expect to see, but out detailed comments on the Outline Marine WSI have been presented below.

2.62. Sections 3.25 onwards summarise the known archaeological potential of the proposed development area offshore, spanning the Palaeolithic to the modern period. This includes remains such as organic deposits infilling channel features and associated with old land surfaces, artefacts, vessels and aviation remains, ports and docks and industrial activities. This highlights the complexity of the marine area as well as the archaeological potential.

2.63. Some of the discussions of different remains and activities are quite high-level and do not highlight the specific values or the potential impacts that the proposed scheme may create. For example, reclaimed land is discussed in Section 3.8.101, but the sort of archaeological evidence preserved within these locations is not mentioned. We would expect to see a discussion on the potential for palaeoenvironmental remains or artefacts associated with the activities carried out in marshland environments to be included.

2.64. Table 4 summarises the archaeological anomalies that have been recorded as part of the archaeological assessment of the geophysical survey data. It is noted that 234 anomalies have been classed as being of high archaeological potential, with 98 anomalies being classed as being of medium potential. All these anomalies will be assigned an AEZ as per the mitigation strategy, which we support.

2.65. Table 4 also highlights that over 4500 of the anomalies identified to date have been classed as being of low archaeological potential. These anomalies may relate to isolated linear features, such as modern debris (rope, chain, fishing gear etc.) (Section 4.2.4). It is not stated how these remains will be dealt with as part of the mitigation strategy. This is covered in the Outline Marine WSI, but we recommend this is amended to include a summary of the proposed strategy here.

2.66. Section 4.3.1 states that a preliminary deposit model has been developed based on the sub-bottom profiler (SBP) data. The model will be refined following the assessment of forthcoming geotechnical data. It can therefore be concluded that only a small part of the offshore development area has been ground-truthed at this stage. The conclusions drawn from the existing information should therefore be treated with caution.

2.67. Section 4.3.6 notes from previous studies that the potential to locate and date organic material and peat in the marine archaeology study area is high. However, it is also stated that dating deposits has proved challenging. These issues would need to be carefully considered when designing any future survey and sampling campaigns so that opportunities to address archaeological question are maximised. We would recommend that the Historic England document 'Radiocarbon Dating and Chronological Modelling' (2022) should be referred to: https://historicengland.org.uk/images-books/publications/radiocarbon-dating-chronological-modelling/.

2.68. Section 4.3.8 states that the potential to locate and date organic material and peat in the marine archaeology study area is high, based on previous studies of palaeochannels located in areas adjacent to the proposed development. Channels interpreted as dating to either the Pleistocene or Holocene period have been identified in the SBP data (Section 4.3.12-4.3.29).

2.69. Several of these features appear to preserve organics based on the geophysical survey responses and could indicate the present of peat. In response, locations of archaeologically specific cores have been proposed to sample these possible organic remains, which will contribute to the deposit model and our understanding of the palaeoenvironment (Section 4.3.11 & Figure 6.12).

2.70. Figure 6.12 It is noted that only nine possible geotechnical cores are indicated here, which we consider to be a low number. This is taking into consideration the number and size of channels identified. We feel that this number should be reconsidered, and further work is required.

2.71. Sections 4.3.31 & 4.3.33 states that geoarchaeological assessments undertaken on behalf of the North Falls Offshore Windfarm and Thames REC have been referenced. The location of the sampled cores referred to by these projects should be shown on a figure, so it is clear how this data relates to the proposed scheme. This is important as it is currently not clear how many boreholes have been assessed when developing the preliminary deposit model offshore, what information has been used to develop the preliminary deposit model and therefore how much confidence we can have in the model. Without this information it is difficult to assess how well we understand the potential impact of the proposed Scheme.

2.72. Table 4.1 presents the outline deposit model, based on the existing date. A total of five units have been interpreted, spanning the Marine Isotope Stage (MIS) 3 (between c. 25,000 to 60,000 years) to the modern day.

Volume 9, Report 19: Outline Marine Written Scheme of Investigation (OMWSI)

2.73. Additional detail needs to be provided in this Outline WSI about the specific nature of the proposed works post-consent. Detail is needed in this document as it forms the foundation of later strategies, so it is clear how this work will proceed, and what is expected of the contracting unit(s) responsible for investigating the anomalies and the sites. This includes

- the type of techniques that will be applied (geophysical, biological & chemical assessments, palaeoenvironmental and scientific dating)
- the remains that will be assessed (plant remains, pollen, charcoal, insects, diatoms, phytoliths, ostracods, foraminifera etc.)

2.74. The subsequent method statement needs to include the research questions that will be addressed by the work, with reference to the relevant research frameworks as cited in this document.

2.75. It is noticeable that Glossary does not include “heritage assets” and that the interpretation of Marine Written Schemes of Investigation should be clear that it is the purpose of these documents to explain the techniques and methodological approach

to survey investigations, as much as detail regarding mitigation methods and avoidance strategies. It was also unnecessary to include WSI twice in the Glossary.

2.76. Section 1.1.2 we are not satisfied by how this outline WSI is structured. The document should have content prioritised as follows:

- Roles and responsibilities
- Techniques and methodologies for archaeological actions
- Proposed mitigation strategies and completion of archaeological programmes

2.77. There is no need for this document to include known and potential marine heritage receptors as this is duplication of information already provided in the ES chapter and Offshore Archaeology and Cultural Heritage technical report (Ref: PINs Examination APP-128).

2.78. Section 1.1.7 – we do not agree with the approach set out whereby an Outline Marine WSI is to inform production of a "Draft Marine WSI" and then "final Agreed Marine WSI". It should be possible for a "final Agreed WSI" to be produced from an outline WSI which is of an acceptable standard.

2.79. Section 2.4.1 states that Historic England are the main Archaeological Curators seaward of MLWS, and we therefore need to be included as a named party in any document control going forward. This includes appropriate wording in the DCO that specifically includes Historic England.

2.80. Please note Essex County Council is the local curator with responsibilities landward of Mean Low Water (MLW) not MLWS as stated.

2.81. Section 5.1.3 we do not agree that HSC should be included as "material and features"

2.82. Section 5.5.6 – states that "*…any future geoarchaeological assessments should focus on sampling and assessing this deposit where it may be impacted.*" Therefore, it is incumbent on the OWSI to set out the required techniques and methodological approaches should consent be secured.

2.83. Section 5.6 We note very cursory attention is given to the North Sea Prehistory Research and Management Framework. It is unfortunate that this OWSI has not attempted to demonstrate research questions likely to be forthcoming within any subsequent method statements. We recommend the OWSI is amended and these references added.

2.84. Section 6.1.7 states that the Outline WSI presents the methodologies required to mitigate the potential impacts of the proposed scheme. A post-construction monitoring plan will also be developed (Section 6.1.8) which will present the monitoring required for the established AEZs where there is potential for further impact. Both documents would need to be discussed and agreed with Historic England.

2.85. Section 6.1.9 states "*The post-construction monitoring plan will focus on monitoring sites of potential archaeological interest and revisiting areas that were identified as of archaeological significance during the construction phase, and to establish any impacts (positive, negative, or neutral).*" This is an important inclusion in reference to the risk of encountering presently unknown heritage assets.

2.86. Section 6.2.3 states that a Draft Marine WSI (based on the Outline WSI) will be produced for submission with the EIA and will detail all aspects of any further archaeological work and the mitigation measures embedded into the project design.

2.87. Section 6.2.4 – lacks clarity. It states that "*…throughout the lifetime of the project this Outline Marine WSI will evolve from the current Outline Marine WSI to the Draft Marine WSI submitted with the EIA and through to the final Agreed Marine WSI, which will be developed post-consent.*" Only the Outline WSI is submitted with the DCO Application and therefore the Applicant should explain if a "draft" WSI is to be produced during examination (see also sections 6.8.4 and 6.8.5).

2.88. Furthermore, any WSI produced post-consent (should permission be secured) should occur prior to any construction activities occurring, so that the final survey campaigns and design decisions are adequately informed by archaeological analysis.

2.89. Section 6.5.1 states that offshore geophysical surveys undertaken during the life of the project will be subject to full archaeological review, which is good to see. We are also pleased to see that Historic England will be consulted as part of this work.

2.90. Section 6.5.2 states that offshore geotechnical surveys are planned post-consent and prior to construction. This work would need to be discussed and agreed with Historic England.

2.91. Section 6.5.3 states that specialist archaeological input will be incorporated, as a proactive measure into the survey methodologies and techniques through to the identification of anomalies and subsequent mitigation strategies. We are pleased to see that a joined-up, collaborative approach will be adopted for this work.

2.92. Section 6.6.2 outlines the involvement of archaeologists into the design and implementation of the post-construction monitoring plan, which is good to see.

2.93. Section 6.7.3 states that there "*…are currently no designated marine heritage receptors such as Designated or Protected Wreck Sites or other sites subject to the provisions of the Protection of Military Remains Act 1986 within the proposed development area.*"

2.94. We are however aware of the presence of HMS E6 (protected place under the Protection of Military Remains Act 1986) and its location should be readily identified in all relevant project documentation (see also Outline WSI, section 8.11.1). This needs to be amended in all documents.

2.95. Table 6.1 (AEZs for known wrecks and obstructions within the marine archaeology study area) includes HMS E6 (UKHO Ref: 14554) and which is afforded an AEZ of 50 m. The spatial extent of this AEZ should be agreed with the Ministry of Defence.

2.96. Section 6.7.7 states that there is still the potential for unknown marine heritage receptors to be present within the study area, which we agree. It is further stated that additional geophysical and geotechnical surveys are essential to developing effective mitigation (Section 6.7.8).

2.97. Section 6.7.9 states that avoidance is the most effective form of protection. For previously unknown receptors impacted be the proposed development, temporary exclusion zones (TEZs) will be established for assets via the PAD until they can be further investigated. This approach seems sensible and appropriate.

2.98. Section 6.7.11 states that the PAD will not replace the process of archaeological investigation but rather provides a safety net in the event of unexpected discoveries. We agree with these statements but recommend additional archaeological assessments are carried out if significant remains are identified via the PAD process.

2.99. Section 6.7.12 it is important that all parties understand that the implementation of a PAD is only to optimise rapid communication and decision making. It does not undo any adverse effects of the development on sites, features or objects of potential archaeological significance encountered and/or recovered during project works. It is only an offsetting operation and not mitigation (see also section 6.7.32 & 33) as damage and destruction is likely to have occurred which is non-recoverable.

2.100. Section 6.7.14 states that AEZs will be assigned to all marine heritage receptors of high and medium potential. It also states avoidance forms the core of the mitigation strategy which we support.

2.101. Section 6.7.16 discusses the strategies that will be needed for items removed from the seabed. It is stated that conservation strategies will be included in the relevant method statements, but we would recommend that a relocation and recovery strategy should also be developed.

2.102. Section 6.7.17 states that anomalies of low archaeological potential will not be assigned an AEZ but will be investigated as part of further survey work. This may be carried out in conjunction with ROV and UXO surveys (Section 6.7.18). We are pleased to see that low potential anomalies will be avoided where possible or investigated further if this is not possible. Additional detail is needed in this Outline WSI about the nature of the surveys that will be carried out, such as the approaches used, the resolution of the surveys etc.

2.103. Table 6.3 – Final Agreed Marine WSI, the proposed timescale is unachievable. If we understand what is being proposed, this can only be achieved post consent (if permission is secured) and pre-construction in accordance with conditions stipulated in any DCO.

2.104. Section 6.7.23 states that the proposed development may cause direct impact to deposits which have the potential to be of geoarchaeological interest; the impacts will be restricted to the impact and penetration depths. However, it is noted that the final design of the proposed development has not been finalised, including for example the type of foundations required to secure the turbines to the seabed.

2.105. The different foundation types will have different levels of impact to any buried archaeology. The full impact on the historic environment is therefore far from clear. In addition, as no geotechnical cores have been collected or assessed as part of the work to date, the significance of the deposits and therefore the impact of the proposed scheme has not been fully determined. These statements need to be reconsidered and we recommend this is considered as a risk.

2.106. Section 6.7.24 states that geotechnical campaigns are planned post-consent and prior to construction. This work will include assessments that will meet the objectives of the archaeological programme and will include the collection dedicated archaeological cores (Section 6.7.25) which is good to see. However, details are needed about the specific nature of the proposed archaeological work.

2.107. Section 6.7.25 states that the cores will be assessed using a staged approach, as outlined in the Cowrie (2011) report, Offshore Geotechnical Investigations and Historic

Environment Analysis: Guidance for the Renewable Energy Sector. The detail of the work will be presented in specific method statements (Section 6.7.26).

2.108. Additional details are however needed in this Outline WSI about the types of investigations and remains that will be assessed in order to clarify what is expected post-consent.

2.109. Section 6.7.27 states that AEZs will be monitored post-construction to ensure that the mitigation programme is effective, which is good to see. It is further stated that the post-construction monitoring plan will be agreed following consultation with the curators, which will include Historic England (Section 6.7.30). We support this approach

2.110. Section 6.7.33 outlines the PAD that will be implemented to record any unexpected archaeological discoveries. We would recommend that a robust training programme is provided to the project staff to ensure that they are aware of the sort of materials/remains that may be discovered and what they can look like.

2.111. Section 6.8.3 states that future surveys will include archaeological objectives and be collected following parameters to ensure they are suitable for archaeological review. It is noted that a Draft Marine WSI and then a Final Marine WSI will be produced post-consent that is based on the Outline Marine WSI and will be agreed with the Regulator prior to the surveys taking place (Sections 6.8.4 & 6.8.5).

2.112. Section 7.1.6 – we do not agree that the Applicant "may" engage one or more archaeological contractors to deliver the mitigation measures set out within this Outline Marine WSI. It will be a condition of any DCO secured for this project that a Retain Archaeological Advice service (professional, accredited and experienced as we advised in our response to the PEIR consultation) will take the Outline WSI and, in consultation with Historic England (and local curatorial service where relevant), as described in section 9.1.1 and 9.1.2, produce a project specific WSI for agreement with the relevant competent authority.

2.113. Section 8.1.2 outlines the main standard and guidance documents that will guide the assessment work carried out offshore. Several CIFA documents are cited but it should be noted that some of the guidance documents have been revised recently in 2023. The references made to CIFA guidance documents should therefore be reviewed to ensure that the current version of the document has been cited here and will be utilised as part of this work.

2.114. Section 8.3.1 states that all future works will be subject to a Method Statement, which will be submitted for review to the Archaeological Curators (Historic England) a

minimum of 20 days before any planned work commences. We are pleased to see that no works will take place unless the Archaeological Curators have confirmed their agreement and support this approach (Section 8.3.2).

2.115. Section 8.4.3 states that any surveys carried out for non-archaeological purposes will embed archaeological objectives into the survey design, which is good to see. This may also include an archaeologist or geoarchaeologist being onboard a vessel when the work is being carried out.

2.116. Section 8.4.4 states that the method statements for surveys carried out for archaeological purposes will be prepared by the Retained Archaeologist or archaeological contractor.

2.117. Section 8.4.6 states that archaeologists will be involved in planning any geotechnical campaigns offshore. The subsequent archaeological assessments will be carried out following a staged approach, which seems sensible and appropriate. It is further stated that Historic England will be involved in the discussions of any proposed works.

2.118. Details have not been included in the Outline WSI regarding the approaches that will be used to investigate the sampled material or the sort of remains that will be assessed. This detail is needed to ensure that it is clear what is expected post-consent. We would therefore request that detail on the different techniques and approaches and remains (as set out above) are included in the Outline WSI.

2.119. Providing additional detail in the Outline WSI will also highlight all those issues that need to be considered. For example, the challenges of dating some of the deposits present offshore has been noted in the Marine Technical Report and so these issues should be considered as part of the Outline WSI. This should include the sort of techniques that will be applied and the material that will be sampled. For example, some of the deposits that will be targeted as part of the geoarchaeological assessment are older than the upper limit of radiocarbon dating.

2.120. In this approach alternative dating techniques would also need to be applied; some of these techniques, such as OSL dating need to be collected and stored following very specific protocols to ensure that the material preserves the archaeological information of value, which needs to be recognised.

2.121. Section 8.4.9 states that the potential locations of geoarchaeological cores have been highlighted on Figure 11.3. The figure shows nine locations in total, but this does not seem to be enough considering the number, size and complexity of possible channels or old land surfaces potentially identified within the marine study area.

2.122. Section 8.4.13 outlines the scope of the Watching Briefs (referred to as Archaeological Monitoring and Recording in the revised CIFA guidance, 2023). We would recommend that there is scope within the Watching Brief to carry out more in-depth assessments if significant remains are discovered.

2.123. Section 8.6.5 mentions the discard of remains. We would recommend that the CIFA Selection Toolkit is used to help guide these decisions: https://www.archaeologists.net/selection-toolkit.

2.124. Section 8.12.1 states that all recovered artefacts will be subject for a Conservation review. We would recommend that the Conservation Review document should be drafted in consultation with a relevant specialist in conservation.

Appendix A: Protocol for Archaeological Discoveries

2.125. Section 12.4.1 & Figure 12.1 correctly states that Historic England will act as the Archaeological Curator for heritage matters seaward of MLWS.

3. ONSHORE

3.1. Volume 6, Part 3, Chapter 7: onshore project description

3.2. Section 7.4.7 states that 85% of the route has been assessed using geophysics and Section 7.4.8 states that geotechnical boreholes have been archaeologically monitored at key locations.

3.3. We recognise it is not possible to survey all areas however a high percentage of the land within the redline boundary remains under investigated and therefore the risk of encountering high value heritage assets remain a significant risk factor.

3.4. Section 4.7.11 states that Trial Trench evaluations were only carried out at the Onshore Substation (OnSS) site. This means that a large section of the proposed Scheme Area has not be evaluated using intrusive approaches. We recognise it is not possible to evaluate all areas however a high percentage of the land within the redline boundary remains under investigated and therefore the risk of encountering high value heritage assets remain a significant risk factor.

3.5. Section 4.7.15 states that a DBA and geophysical survey has been carried out across the scheme to inform on the potential that unrecorded remains may survive. It is acknowledged that the results of this work has not been ground-truthed by intrusive investigations. The results are therefore classed as being probabilistic at this stage (Section 4.7.16). We acknowledge that a reasonable worst-case scenario has been assumed for the purpose of the ES, but it should be noted that there is the potential for unexpected remains to be present, even though geophysical surveys have been carried out.

3.6. Section 4.7.17 states that the direct effects on heritage assets would only occur within the proposed Order Limits but this may not be true if the scheme impacts ground water levels. The effects of changes to the local water environment may be felt outside of the Red Line Boundary, which in turn could impact the preservation of any nearby waterlogged archaeological sites. The potential for this to occur should be included as part of the archaeological assessment.

3.7. Section 7.7.3 summarises the geoarchaeological assessment that has been carried out for key parts of the proposed scheme area, highlighting the high potential for Palaeolithic deposits and remains to be present, particularly in the valley of the Holland Brook.

3.8. Section 7.7.6 states that layers of peat were recorded during the geoarchaeological monitoring of geotechnical boreholes in the area of landfall zone. Peat is classed as having high archaeological and palaeoenvironmental potential as it can preserve organic archaeological remains and provide information on how the landscape and environment changed over time.

3.9. Section 7.7.4 acknowledges that the geoarchaeological and archaeological potential of some deposits, such as the Brickearth, is not well understood and that further work would be needed in these areas.

3.10. Section 7.7.8-7.7.36 The DBA has revealed the complexity and significance of the proposed development area, with known archaeology spanning the Palaeolithic to the modern day. There is therefore high potential for previously unknown remains to be present.

3.11. Section 7.7.37 It should also be noted that geophysical techniques cannot identify all types of archaeological remains and materials such as organic remains (e.g. wood). Part of the information could therefore be missing from the current baseline evidence. It should therefore not be assumed that 'blank' areas within the geophysical survey data are completely devoid of archaeology. We would also recommend that alternative geophysical technique are considered to targeted specific areas or features.

3.12. Section 7.7.54 states that trial trench evaluation works have been carried out at the OnSS due to the lack of flexibility in the design of this element. In addition, a possible Roman road was identified in the area following the geophysical survey. A series of evaluation trenches and test puts were also excavated to investigate the Palaeolithic potential (Section 7.7.58).

3.13. Section 7.7.71 states that the coastline represents a complex landscape of reclaimed marsh, saltmarsh, intertidal muds, creeks and islands. The archaeological and palaeoenvironmental potential of these areas has not been discussed and should be highlighted. These areas may have offered valuable resources to populations in the past and so a range of archaeological features and remains may be present. It should be noted that some of the activities may only have left ephemeral traces and so strategies to investigate these sorts of areas should be carefully considered.

3.14. Table 7.7 outlines the general mitigation relating to the onshore cultural heritage, predominately focusing on the design and micrositing of elements. We are pleased to see that areas of significant and complex archaeology have been excluded from the Order Limits, such as at the henge at Little Bromley.

3.15. By the time of examination this may have been added to the national heritage list as a scheduled monument. Any documentation and references will therefore need to be updated if this is the case.

3.16. Table 7.8 outlines the additional mitigation proposed for the onshore cultural heritage. It is good to see that avoidance forms the core of the mitigation strategy where possible. This will be achieved through the design and micrositing of elements of the scheme. Where remains cannot be avoided, a programme of archaeological investigation work will be carried out to ensure that any archaeological, geoarchaeological and palaeoenvironmental remains are identified and recorded.

3.17. We feel that this is a risk to the project as there is the potential for previously unknown archaeological remains to be present. We have continued to raise concerns during the pre-application process (See comments in Table 7.2) about the level of detail that can be provided by these methodologies alone, and we believe what has been provided here is insufficient for a project of this magnitude.

3.18. As set out in our relevant representation it is our view that in order to provide an effective mitigation strategy for the historic environment, assets particularly non-designated archaeological sites within the construction corridor, need to be fully assessed so that the significance and value to be determined and assigned.

3.19. This is best done via a range of techniques, however in our view this should also include intrusive evaluation. At present the values set out in Section 7.10 and assigned to individual heritage assets is based on only a partial assessment. These values can therefore only be considered as interim or draft.

3.20. We acknowledge the applicant has set out mitigation and we accept there are factors that can limit opportunities for evaluation, however further intrusive assessment provides clarity on significance and reduces project risk. Particularly when targeted at key construction areas such as cable landing and direct drilling sites. This is the approach we and Local Planning Authority partners have recommended and is based on extensive experience and is a recommended as best practice.

3.21. It is also important to identify any sites which are of equivalent value to a designated heritage asset as soon as possible, and prior to construction work commencing to ensure mitigation measures are effective and can be implemented. One such site - the Little Bromley henge, (See Section 7.10) has already been identified by this scheme.

3.22. If any high value assets are identified post-consent avoidance of impact or preservation in situ will be more difficult. We are pleased to see that areas of significant and complex

archaeology have been excluded from the Order Limits, and we accept there are inbuilt mitigation options with micro-siting however this is limited to the cable corridor. Identifying a large high value asset or one that in policy terms have an equivalent value (to a scheduled monument) would therefore be a significant issue. Particularly if micro-siting is not applicable.

3.23. We do not consider this is an adequate situation and leaves unknow elements of risk within the project timetable and baseline information. We remain concerned.

3.24. Section 7.10 outlines the environmental assessment of the construction phase. A heritage significance value has been assigned to the assets identified. These values should be reassessed following the evaluation, as only limited intrusive investigations have been carried out to date to ground truth the findings of the non-intrusive approaches.

3.25. In particular, the significance assigned to at present unknown archaeological remains would need to be refined as more information becomes available. We would recommend that a cautious approach should be applied, assuming a higher significance value until further information becomes available.

3.26. Section 7.10.6 states that there is potential for offsite effects to occur outside of the proposed Order Limits where waterlogged deposits or features extend beyond the extent of the proposed scheme. This could include elements where the flow of water through features or deposits could be affected by construction activities, which could lead to dewatering or drying out of deposits.

3.27. It is stated that an approved programme of archaeological mitigation will be implemented, but it is not clear what this will involve. For example, will a staged assessment of the water environment be required, following the approaches outlined in the Historic England document 'Preserving Archaeological Remains' (2016): https://historicengland.org.uk/images-books/publications/preserving-archaeological-remains/. We recommend this guidance is referenced and considered.

3.28. Section 7.10.7 states that no peat or alluvial deposits were found in geotechnical boreholes or test pitting in other areas of the route, but it has been stated in the Geoarchaeological DBA that peat has been identified (Annex 7.3, Section 6.1.24). In addition, geoarchaeological monitoring of boreholes has only been carried out at very targeted locations and not for most of the proposed route. This needs to be clarified and the anomalies resolved.

3.29. Section 7.10.56 states that mitigation measures to minimise the potential adverse effects to buried archaeological remains will be achieved through preservation by record. An approved programme of archaeological fieldwork and recording and post-excavation assessments will be carried out. The details of the proposed works have been presented in the Outline WSI (Volume 9. Report 23). This document and any subsequent reports should be agreed with Historic England.

Volume 6, Part 6, Annex 7.1: Historic Environment DBA

3.30. The desk-based assessment has highlighted the potential for archaeological remains to be present dating to all periods, from the Palaeolithic to the modern day. However, it was noted that there has been a lack of previous archaeological investigations within the study area.

3.31. As we have already set out there is a risk that the conclusions made following the DBA may not reflect the true archaeological potential of the area and values assigned to assets would need to be reassessed as more information becomes available.

3.32. We have highlighted policy in the NPPF at footnote 72, which states that-designated heritage assets of archaeological interest, which are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets. This is mirrored in National Policy Statements EN1 at para 5.9.5.

3.33. It is important and using appropriate assessment to be clear about the values of the assets affected by the proposal. This is to enable the mitigation set out in the application to be successfully applied.

3.34. We recommend this chapter is revisited as further information becomes available.

Volume 6, Part 6, Annex 7.2: Onshore Geophysics report

3.35. Section 11.5.1 states that the known barrow in the East of Tendring survey area was not evident in the data and suggests a low level of preservation. This raises questions about how many other archaeological sites and remains have not been identified through the survey work.

3.36. Section 12.5.2 states that no anomalies of archaeological origin were identified. An indication of modern farming was identified as a spread of surface material. Questions therefore need to be asked about whether there is a chance that the modern farming

activities have obscured the detection of earlier features and remains? A statement on this issue should be included in the report.

3.37. Section 13.5.2 states that no evidence was identified for the ring ditches and pits noted as crop marks. However, it is also stated that the area is dominated by natural geological responses, which may make the identification of weak archaeological anomalies difficult. Questions may therefore be asked about the potential for other anomalies to be obscured by geological responses in other parts of the proposed scheme area. This needs to be discussed within the report and the report updated accordingly.

3.38. Section 16.5.1 states that none of the cropmarks were identified in the geophysical survey data in the area of Kirby Cross West. It has been noted that this may be due to sediments obscuring the features. This needs to be discussed in more detail in the report so it is clearer that there is the potential for archaeological remains to not be visible in the geophysical survey data.

3.39. The geophysical survey was carried out across a range of environments and deposit types, which may include waterlogged deposits near river channels or in marshes. The report does not comment on whether areas would benefit from the use of alternative geophysical techniques to help increase our understanding of certain features, or to target areas where magnetometry was potentially less successful. This should be included in the report.

Volume 6, Part 6, Annex 7.3: Geoarchaeological DBA

3.40. It is acknowledged in this report that the data coverage of the proposed Scheme area is generally poor. More recent studies have been focused on the OnSS, Frinton Golf Course and Swan Road, but large areas of the scheme have not been evaluated using intrusive approaches.

3.41. We recommend a statement is included about the confidence held in the preliminary deposit model at this stage. We would also recommend that the confidence is low and that conclusions drawn from the preliminary deposit model are treated with caution until additional information is recovered, and the model updated.

3.42. It is noted that samples have not been processed from the areas where geoarchaeological monitoring of GI boreholes has taken place. It is therefore not clear what remains may be present or what condition they are in. This information is needed to understand in more detail the archaeological and palaeoenvironmental potential of the sampled deposits, how vulnerable they may be to changes in conditions on the site,

but also the impact of the proposed Scheme. In addition, this information can help define the works that are needed to mitigate the development of the proposed Scheme.

3.43. Section 2.2 outlines the previous work that has been carried out in the area of the proposed scheme. This work has highlighted the geoarchaeological and palaeoenvironmental potential of the deposits present, which could be impacted by the development. It is stated that there is potential for alluvial deposits and organic-rich deposits which may preserve evidence of how the landscape and environment changed over time (for example Sections 2.2.17, 2.2.35, 2.3.16, 2.3.20 and 6.1.1).

3.44. Section 2.2.27 The potential for palaeolithic deposits has also been noted in several parts of the site, such as the Kesgrave Sands and Gravels.

3.45. Sections 2.2.22 & 6.1.21 state that the date of the Brickearth deposits is not well understood. It is noted that additional evaluation works have been recommended to investigate the Brickearth deposits in more detail (Table 7). We would support the need for this work

3.46. Section 2.2.29 outlines the offshore geophysical survey work and the palaeochannel features identified in the nearshore area. The inclusion of these features into the discussion of the onshore features is good to see. For example, the palaeochannel that crosses the offshore ECC that contains evidence of potential organic deposits (Section 2.2.30).

3.47. Sections 2.2.35 & 6.1.24 report on the monitoring works of GI cores at Frinton Golf Course. It was stated that peat was present within the Holocene alluvial sequence, recorded in all three of the boreholes. This highlights the geoarchaeological and palaeoenvironmental potential of these areas. However, it is not clear if the sampled deposits have been assessed in terms of the palaeoenvironmental potential, such as determining the presence or absence of remains and their condition.

3.48. This information is required in order to understand in more detail the archaeological and palaeoenvironmental potential of the deposits present, but also to understand the potential impact of the proposed scheme. Further work is therefore recommended.

3.49. Section 2.2.37 reports on the GI monitoring works carried out at Swan Road. The boreholes identified deposits of significant geoarchaeological potential, such as the deposits likely to be equivalent to the Cooks Green Gravel. It is not clear if the sampled deposits have been assessed in terms of the palaeoenvironmental potential, such as determining the presence/absence of remains and their condition. This information is

needed in order to understand in more detail the archaeological and palaeoenvironmental potential of the deposits present, but also to understand the potential impact of the proposed scheme.

3.50. Section 2.3 summarises the potential of the superficial deposits recorded within the study area. This includes deposits, such as deposits associated with the Colchester Formation that contain evidence of diverse animal and plant assemblages (Section 2.3.4). This highlights the archaeological and palaeoenvironmental potential of these deposits.

3.51. It is noted that a mixture of 59 existing BGS boreholes (Section 5.2.1) and 99 logs from recent GI works (Section 5.2.3 & 5.2.4) have been collated to update the preliminary deposit mode. It should be noted that 17 of the BGS borehole were located either within or very close to the Scheme boundary.

3.52. Section 6.1.28 states that the peat identified at the Finton Golf Course highlights the potential of such deposits to be preserved within Holocene alluvial sequences encountered within the Onshore Project area, the lower valley of the Holland Brook and Holland Haven Marshes areas. Peat is of high archaeological and palaeoenvironmental potential.

3.53. Sections 6.2.3 and 6.2.15 states that the data coverage within the Scheme is generally poor, with only 17 archive boreholes located within or very close to the Scheme boundary. This data is supplemented by the results of geoarchaeological works in specific areas of the proposed Scheme but in general there are large parts of the proposed Scheme area with no borehole evidence (Figure 3.1). As set out above we recommend a statement is included about the confidence that can be held in the preliminary deposit mode.

3.54. Section 6.3.4 The work carried out to date highlights the potential of the geoarchaeological work to provide information for areas where we have only limited information. For example, no superficial deposits are mapped in GCZ 2 and so there is potential for previously unmapped Pleistocene deposits to be present.

3.55. Section 6.3.10 states that no previous interventions have been carried out in Zone GCZ 5 and the extent, character and depth of any Alluvium is unknown. The same comments apply to GCZ 7 (Section 6.3.13). Further investigations in these areas will therefore add valuable information to our understanding of this area.

3.56. Section 7.1.2 and Table 6 outlines how the archaeological potential of a deposit has been assigned. We would recommend that these conclusions are treated with caution

since it has been stated that the data coverage within the Scheme is generally poor. A statement of the confidence that can be held in preliminary deposit model and the assigned levels of potential should be included in this section.

3.57. Section 7.2 links the archaeological and environmental potential of each identified deposit to relevant research frameworks, which is good to see. It would useful during subsequent phases of investigations to link the aims and objectives to specific research questions within these framework documents.

3.58. Section 8.2 and Table 7 outlines the recommendations made for further work in each of the GCZ zones. The recommendations appear to be sensible and appropriate, but we would want to see additional detail provided in a method statement, in order to demonstrate how the deposits would be sampled and assessed. For example, test pits are recommended to evaluate GCZ, but do the applicants geoarchaeologists recommend the collection of monolith samples, bulk samples, specialist samples etc.?

3.59. We would also recommend that the applicants geoarchaeologists are allowed direct access to, and able to retain when necessary, the geotechnical cores as it is better to record and assess continuous core sequences rather than isolated deposits as this allow for greater reliability and confidence in the resulting conclusions.

3.60. We would recommend that the application of scientific dating is considered carefully before the cores are recovered as some of the deposits discussed in this section exceed the upper limits of some dating techniques, such as radiocarbon dating. For these deposits, alternative techniques would be required, such as optically stimulated luminescence dating (OSL). As this technique provides a date for the last time mineral grains were exposed to light, the collection and storage of sampled cores needs to be carefully considered and may require the use of light-proof sleeves on cores when they are being collected.

Volume 6, Part 6, Annex 7.4: Archaeological and Geoarchaeological monitoring of Ground Investigation works

3.61. The report presents the geoarchaeological monitoring of seven GI boreholes and associated hand-dug test pits. The samples were recovered from three GCZ zones: GCZ 2, GCZ 3 and GCZ 4 (Section 2.2.3) and the landfall location (Section 2.2.13).

3.62. Although the work presented in this report is limited in terms of the number of boreholes and test pits that were assessed, they have added to our understanding about the archaeological and palaeoenvironmental potential of the sampled deposits in these areas.

3.63. The report makes recommendations for further work to be carried out but does not make any recommendations for further palaeoenvironmental or scientific dating work to be carried out on the cores and any samples recovered as part of this work (for Stage 3, as outlined in Table 1).

3.64. It is acknowledged that this is partially covered in the Updated Geoarchaeological Deposit Model (Annex 7.3, this volume), but we recommend additional detail is added here so it is clear which of the specific deposits and samples will be needed.

Volume 6, Part 6, Annex 7.7: Onshore Archaeological and Geoarchaeological monitoring of Ground Investigation works.

3.65. Please note that this appears to be the same document as Annex 7.4?

Volume 6, Part 6, Annex 7.8: Archaeological and Palaeolithic Evaluation Phase 1

3.66. The report presents the findings of the archaeological and Palaeolithic evaluation works carried out at the proposed OnSS area (Section 1.1.2).

3.67. Section 7 presents the results of the environmental sampling strategy. It is stated in Section 7.1.1 that eight bulk samples were recovered in total from the excavations, all of which sampled the cremation burial identified in Trench 22. It is not clear why other features were not sampled as part of the evaluation works in order to understand the archaeological potential of the wider area, and for a wider range of features.

3.68. Focusing all the attention on one feature will not help guide the sampling strategy for the future excavation phase of investigations.

Appendix 4: Geoarchaeological report, Palaeolithic Archaeological Evaluation

3.69. This report presents the findings of the Palaeolithic Archaeological Evaluation (Phase 1). A total of 11 machine-dug test pits were investigated from the area of the OnSS (Sections 1.1.2 & 1.2.1).

3.70. Section 4.3.5 states that no deposits suitable for sampling were encountered and no samples were taken.

3.71. Section 4.3.6 states that the potential for deposits to be dated using luminescence dating was considered. It was noted that suitable deposits were identified but they occurred at depths that were not accessible. If these deposits will be impacted by the proposed development, approaches will need to be considered to allow these deposits to be sampled safely.

3.72. Section 8.2.3 highlights that hollows and gullies incised into the Ardleigh Gravel have not previously been identified and are undated. The Palaeolithic potential of these deposits is therefore unknown. We are therefore pleased to see that should these deposits be impacted on by development proposals, it is recommended that they are further investigated as part of post-consent archaeological mitigation works, with provision for the recovery of luminescence samples for dating.

Volume 6, Part 6, Annex 7.9: Archaeological and Palaeolithic Evaluation Phase 2

3.73. This report presents the findings of the Palaeolithic Archaeological Evaluation (Phase 2). A total of 19 machine-dug test pits were investigated from the area of the OnSS (Section 1.2.1).

3.74. Section 5.4.1 states that 2 samples were collected from TP225 for palaeoenvironmental assessment. Samples were recovered from fluvial sands and gravels that have the potential to contain microfossil remains such as diatoms, ostracods and/or foraminifera (Section 6.4.2).

3.75. Section 5.4.3 states that no samples were recovered for scientific dating, but it was noted that sand layers and lenses within the Sand and Head-Gravel would be suitable for luminescence dating. Unfortunately, the Sands were not encountered during the Phase 2 evaluation and the Head-Gravel deposits could not be safely accessed. If these deposits will be impacted by the proposed development, approaches will need to be considered to allow these deposits to be sampled safely.

3.76. Section 5.4.3 also states that sands and silts were also recorded within the Ardleigh Gravel, but these sediments exceed the maximum upper limit currently available from luminescence dating techniques. If these deposits will be impacted by the proposed Scheme, alternative dating techniques will need to be utilised.

3.77. Section 8.2.4 states that if the Ardleigh Gravel will be impacted by the proposed development, that they should be assessed through a borehole survey. In addition, should any Ground Investigation work (including boreholes) be carried out at this location, it is recommended that these are geoarchaeologically monitored. This is a sensible and proportionate approach.

3.78. Section 8.2.5 states that the evaluation has identified the localised presence of sediments with palaeoenvironmental potential in the top 3 m of the Ardleigh Gravel. These have been sampled as part of the evaluation, but they have not been assessed. This could be classed as a missed opportunity at this stage as the samples would help

to establish the deposits potential and therefore the impacts of the proposed development.

3.79. It is stated that the assessment of the two samples taken to date would represent sufficient mitigation. We not agree and recommend that this statement is reassessed once the samples have been analysed.

3.80. Section 7.1.1 states that two bulk samples were collected from undated pits 8303 and 10103. It is not clear why other features were not sampled as part of the evaluation works in order to understand the archaeological potential of the wider area, and for a wider range of features. This would help develop a sampling strategy for the next phase of excavation works.

Volume 9, Report 23: Onshore WSI

3.81. Section 4.1.1 outlines the post-consent assessment strategy, which includes the need to complete the remains 14.5 ha of geophysical survey, archaeological and geoarchaeological Watching Brief of geotechnical works, archaeological Trial Trench and Palaeolithic Test Pit Evaluation, and purposive Geoarchaeological Borehole Survey.

3.82. Section 4.1.1 states that geophysical survey will be carried out on the remaining 14.5 ha of the proposed Scheme. As a large proportion of the geophysical survey has already been completed, it would also be useful to include a statement about the potential need for alternative geophysical techniques to investigate targeted areas or to fill in any gaps in our understanding.

3.83. Section 4.5.2 states that geoarchaeological monitoring priorities will be determined based on the results of a prior Geoarchaeological DBA. We would recommend that the areas identified as a priority are reassessed as new information becomes available, as it is acknowledged that the that the data coverage of the current deposit model is generally poor (Annex 7.3). It is possible that additional information may highlight other priorities.

3.84. Section 4.6.1 states that the geoarchaeological monitoring of GI works will be carried out in compliance with the CIFA Standards and Guidance for Archaeological Field Evaluation (2020). It should be noted that this document was revised in 2023; all references should be updated.

3.85. Sections 4.6 and 4.7 outline the aims and objectives of the geoarchaeological monitoring. A section outlining the methods and approaches that will be used should

also be included in this Outline WSI so that it is clear what is expected post-consent. This includes the sort of techniques that may be employed (e.g. loss on ignition, magnetic susceptibility, soil chemistry, scientific dating etc.) or the sort of remains that will be investigated (e.g. plant remains, charcoal, pollen, insect remains, microfauna etc.).

3.86. Section 5.2.2 states that the research questions/themes presented in the Regional Research Frameworks for the East of England by Medlycott et al. 2011 will be referenced. It should be noted that the Regional Research Frameworks were revised in 2011 and should therefore be referenced instead: https://researchframeworks.org/eoe/.

3.87. Section 5.6.3 states that building slots or postholes will be preserved intact for excavation in more appropriate circumstances, even if the fills are sampled. We would recommend that all the fill is sampled if the features are small as this will help recover meaningful samples. In addition, some of the half-sectioned deposits left in situ may become destabilised by the back-filling processes which could result in the loss of valuable archaeological information.

3.88. Section 5.9.1 states that monitoring will be carried out by the relevant Planning Authority. This should also reference to Historic England Science Advisor attending when necessary and as requested.

3.89. Section 5.11.2 outlines the approach to the excavation of human remains. We would recommend that a specific sampling strategy is prepared for any human remains (inhumations and cremations). For example, it is recommended in the Historic England document 'The Role of the Human Osteologist in an Archaeological Fieldwork Project (2018) that spatially distinct samples should be recovered from the head, torso and foot area of an inhumation: https://historicengland.org.uk/images-books/publications/role-of-human-osteologist-in-archaeological-fieldwork-project/.

3.90. Section 5.12 outlines the environmental sampling strategy for the Trial Trenches. We are pleased to see that the principles of the Historic England document 'Environmental Archaeology' (2011) will be adhered to, but we would recommend that the aims and objectives of the work are included here, linked to the overall project aims and objectives.

3.91. The aims and objectives of the sampling strategy should consider the nature and range of biological remains present, the possible variations in preservation across the site, the differential distribution of remains across the site (both vertically and horizontally) and

the significance of these remains in local, regional and national context. We would also recommend that provisions are made for relevant specialists to visit the site to support the sampling and recovery of material when necessary.

3.92. We would recommend that the Historic England document '*Radiocarbon Dating and Chronological Modelling*' (2022) is referred to for the development of a robust chronology for the site: https://historicengland.org.uk/images-books/publications/radiocarbon-dating-chronological-modelling/. For example, organic sediments, such as peat can be a challenge to date, and it will be important to consider what the right material/fraction is to date the deposit.

3.93. Section 6.1.5 states that the purposive borehole survey will predominately focus on GCZ 1, although boreholes in other areas will also be required in other locations as well. We would recommend that the priority areas are reassessed as more information becomes available to ensure that opportunities are not missed.

3.94. Section 6.2.1 references the Regional Research Frameworks for the East of England as Medlycott et al. 2011. It should be noted that this was updated in 2021 (https://researchframeworks.org/eoe/). Any references to the framework and the research questions need to be updated.

3.95. Section 6.2.2 states that samples for palaeoenvironmental analysis and/or scientific dating will be collected from the sampled cores. We would recommend that the choice of scientific dating techniques are considered before the cores are recovered to ensure that appropriate sample collection and storage conditions are met. For example, optically stimulated luminescence (OSL) dating provides a date for the last time mineral grains are exposed to light. It is therefore important to protect samples from the light during the collection and storage of the material. In this case, light-proof cores could be used to shield the boreholes.

3.96. Section 7.1.3 states that all artefacts will be washed, but we would recommend that this is carried out on a case-by-case basis to ensure that sampling opportunities are not missed. For example, organic residues could be damaged if the artefacts are washed. The same comments apply to Section 7.2.4 & 7.3.5.

3.97. Section 7.1.6 outlines the post-excavation work that will be carried out. We would recommend that the processing of the bulk samples occurs during the excavation stage so that any findings can be fed back to the excavation team, guiding the investigations on site.

3.98. The section on processing samples environmental samples does not mention the specialist samples that have been described in Section 5.12.7. This is something that would need amending an any future documents.

3.99. Section 8.1.2 outline the main sections included in the subsequent report. We would recommend that there is a statement of potential and condition of the remains discussed within the document.

3.100. Section 10.2.1 states that evaluation works have been carried out at the OnSS site, but that additional works may be required when the design of the Sub-Station has been finalised. This may include geoarchaeological test-pits, purposive geoarchaeological boreholes, palaeoenvironmental assessment of geoarchaeological boreholes and strip, map and excavation of defined areas.

3.101. Section 10.3.1 outlines the mitigation strategy for the OnSS area, and could include excavation, detailed geoarchaeological recording and sampling, preservation, amendments to design (micrositing, the use of trenchless techniques etc.) and watching briefs.

3.102. Section 10.4.2 states that features such as hearths could be excavated by hand in their entirety. We would recommend that burnt features, such as hearths, kilns, ovens and furnaces should be considered in terms of their dating potential using techniques such as archaeomagnetic dating. Archaeomagnetic dating samples in situ fired remains, and so features should not be excavated until they are discussed with an appropriate specialist. In the first instance this could involve discussing the features with the Historic England Science Advisor.

3.103. Section 10.4.2 states that palaeoenvironmental samples will be recovered from the excavations, but no details are provided about the sort of sample or the type of features that will be targeted. A sampling strategy therefore needs to be included that includes a statement of the aims and objectives, linked to the overall aims and objectives of the project. The sampling strategy should also build on the work carried out at the evaluation stage.

3.104. Section 10.5.1 outlines the geoarchaeological sampling that will be carried out. It would be useful to include details of the sort of samples that could be collected, such as contiguous column samples, bulk samples, specialist samples etc.

4. Policy

4.1. We consider it relevant to highlight the following at this stage:

4.2. EN-1 Para 5.9.5 refers to heritage assets that are not currently designated, but which have an equivalent of significance to designated heritage assets and includes those sites that have yet to be formally assessed by the Secretary of State, but which have potential to demonstrate equivalent significance to Scheduled Monuments or a Protected Wreck Sites.

4.3. This remains relevant to this application given the applicant has not undertaken physical evaluation within the development area. Assets may therefore be revealed that would need to be considered under this policy.

4.4. We note policy 5.9.9 states the applicant should undertake an assessment of any likely significant heritage impacts of the proposed development as part of the EIA, and describe these along with how the mitigation hierarchy has been applied in the ES and policy 5.9.10 As part of the ES the applicant should provide a description of the significance of the heritage assets affected by the proposed development, including any contribution made by their setting. The level of detail should be proportionate to the importance of the heritage assets and no more than is enough to understand the potential impact of the proposal on their significance.

4.5. Both policies are relevant in that the ExA will need to determine if the applicant has provided enough information in order to examine the application and to adequately assess and balance the harm and benifit.

4.6. EN-1 para 5.9.17 – It is apparent that the Applicant is only considering 'heritage assets' as designated sites, places etc. However, EN-1 Section 5.9 (Historic Environment) explains that not all heritage assets are designated or otherwise subject to statutory protection. Therefore, the provisions of section 5.9.17 are applicable to any presently known or unknown heritage assets as may occur within the proposed Order limits. Furthermore, we note that the glossary for this chapter does not include the published definition of 'heritage asset' (see EN-1, section 5.9.3).

4.7. EN-1 para 5.9.18 – We do not agree with the Applicant's interpretation and it is our advice that this provision is directly applicable to the historic environment and heritage assets as may occur within the proposed Order limits. It is important to highlight that terms used by the Applicant, such as "marine heritage receptors" are not defined. It is therefore of crucial importance that provisions for documentation such as an Outline

Marine Written Schemes of Investigation (Volume 9, Report 19, PINs Ref: APP-256), are secured through the DCO.

4.8. EN-1 para 5.9.19 – While we recognise the assumption made about reducing the risk of impact to the historic environment using Archaeological Exclusion Zones (AEZs). It is apparent that this is focused on "all known wreck and obstructions and anomalies of high and medium archaeological potential". However, it can be reasonably anticipated that presently identified anomalies, that are of low potential on closer examination are significant.

4.9. It is therefore essential that the mitigation strategy for this proposed development allows for the application of detailed assessment techniques and methodologies through an archaeological Written Schemes of Investigation (WSI). We add that the application of the WSI is only effective if applied and used at an early stage so that it informs post consent engineering planning, should approval be secured.

4.10. EN-1 para 5.9.21 We do not agree with the Applicant's interpretation. The mitigation measure highlighted by the Applicant is the use of a Protocol for Archaeological Discoveries (PAD). However, it is important to understand that a protocol mechanism is specifically designed to support emergency notification between identified key stakeholders after wreck material or anomaly of possible archaeological has been encountered. It is therefore likely that impact will have occurred and therefore a PAD can only off set that impact.

4.11. This para in EN-1 clearly states the requirement for "appropriate procedures" and therefore the Applicant should acknowledge the on-going relevance and application of a WSI to support immediate placement of AEZs and methodologies for further investigation.

4.12. EN-1 para 5.9.24 – The Applicant appears to be conflicted about the use of a "conservation strategy" and they should clearly explain how the efficient application of WSIs applicable post-consent and pre-construction, during construction, through operation phase and decommissioning will be produced in order to avoid or minimise conflict with the conservation of heritage assets.

4.13. EN-1 para 5.9.27 to 5.9.31 – While we appreciate the commitment offered by the Applicant "...to avoid all known marine archaeological and cultural heritage receptors…" it is crucial that further investigation occurs before impact to ensure that any unknown marine archaeological and cultural heritage receptors can be identified and therefore avoided given that heritage assets are intrinsically non-recoverable.

4.14. EN-1 para 5.9.33 – We do not agree with the Applicant's interpretation as it is not possible to state at this stage that no impact will occur to marine archaeological and cultural heritage receptors which could lead to harm or total loss of significance given the partial completion of pre-application assessment exercises.

4.15. EN-3 para 2.8.75 – Regarding the response offered by the Applicant, it must be made clear that to satisfy the requirement for field evaluation investigations prior to construction that the Outline WSI produced at time of application should inform the production of a WSI post-determination (should consent be secured) which provides the framework for subsequent method statements for specific survey campaigns (geophysical and geotechnical). We agree that such action is to be secured by requirements and conditions within the DCO.

4.16. EN-3 para 2.8.167 – We do not concur with the Applicant's interpretation, as it is not possible to state at this stage that there will be no impact on marine archaeological and cultural heritage receptors that could lead to harm or total loss of significance.

4.17. Furthermore, there is no differentiating between mitigation and offsetting in consideration of impact that could have occurred.

4.18. EN-3 para 2.8.325 – the Applicant has not acknowledged in their interpretation that in order to 'mitigate' for discoveries made during development the application of AEZ remains a constant requirement.

4.19. It should be anticipated that anomalies presently considered to be of minimal archaeological interest and not presently afforded AEZs, on subsequent (higher resolution) investigation by a retained archaeological advice service might necessitate application of AEZs.

5. Code of Construction Practice and DCO wording

CoCP

5.1. We welcome that the submitted Five Estuaries Code of Construction Practice (CoCP, Vol 9 Report 21, March 2024) includes an archaeological discovery protocol in its site staff induction section (3.4.1).

5.2. The CoCP does however not address archaeology further, except to cite the OWSI as a document to read in parallel. We consider this document is unacceptable in its current form and does not provide any comfort in relation to the schemes approach.

5.3. We recommend that the CoCP be revised to include a more detailed section on archaeology so that headline project principles around the timings, scope and implementation of fieldwork, as well as summary protocols for unexpected discoveries, the potential need for public engagement and the monitoring and maintenance of 'no dig' areas are also highlighted in this key control document.

5.4. The CoCP could also be used to address marine and offshore heritage and approaches to the management of assets, geotechnical works, surveys and mitigation within the project boundaries.

5.5. As set out in our relevant representation and above in our main representation we would want to ensue there is a mechanism to ensure engagement and support appropriate monitoring. This links the DCO to the OWSI via the CoCP

5.6. In the event of the project being consented, we would also want to ensure that there is adequate mitigation and we will be providing comments on the DCO wording, and the CoCP and WSI documents.

The DCO

5.7. The Draft Development Consent Order (Ref: Section 3.1, March 2024: Doc Ref: APP-024) Onshore Archaeology Requirement 11 (1) states

'No stage of the onshore works may commence until for that stage an archaeological written scheme of investigation in accordance with the outline onshore written schemes of investigation as appropriate for the relevant stage has been submitted to and approved by the relevant planning authority.

5.8. We recommend wording is added to provide names parties which would need to include Historic England, and the County archaeological service (Essex Place Services) as advisors to the LPA.

5.9. In addition Condition 13(2) requires amendment to:

"*Subject to condition 13(3), the licensed activities or any relevant stage of those activities must not commence unless no later than six months prior to the commencement a marine written scheme of archaeological investigation for the stage in construction has been submitted to and approved by the MMO in writing, in accordance with the outline marine written schemes of investigation, and in accordance with industry good practice, in consultation with the statutory historic body and Essex County Council to include—…*"

6. Concluding Comments

6.1. As set out above Historic England do not object in principle to the proposal and the information provided in the application is in our view adequate for the purpose of the examination. The information provided with ES is however not without issues.

6.2. We have identified a series of concerns with the way in which the applicant has set out the information for the historic environment in both the marine and terrestrial chapters and these are set out above in our comments above.

6.3. In our view there are text issues and errors that need to be addressed by the applicant as soon as possible. We recommend the key documents are corrected or an erratum issued as appropriate before the end of the examination.

6.4. One of the key issues is the lack of appropriately worded detail in the CoCP and we would recommend this document is revisited with urgency. Other recent DCO projects have set out excellent polices for archaeology through a CoCP or REAC documents that give both comfort and assurances that archaeology would be appropriately managed.

6.5. This is a key document that links the DCO requirements to the WSI, and if appropriately detailed would provide assurance to curators that archaeology will be appropriately and responsibly considered and managed.

6.6. Likewise, we would consider the changes to the DCO wording to be important to ensure appropriate checks and balances within the programme of work. We would ask the ExA to support these word changes.

6.7. One of the key concerns for both the terrestrial and marine environments is the lack of physical evaluation of known archaeological assets. This renders the assessment of value presented in the ES as effectivity a draft value, as it has not been possible to characterise those deposits except via geophysical survey.

6.8. This presents considerable risk to the both the loss of important information and proposed embedded mitigation, which relies upon micrositing away from important anomalies is potentially at risk, should extensive and important archaeological deposits be identified post consent.

6.9. It is important that the applicant acknowledges that this approach could result in high value assets relating to the historic environment being encountered that could risk the projects timetable and key milestones.

6.10. These is no mechanism in the proposed mitigation, OWSI, or CoCP for managing these issues, and we are therefore seeking urgent consideration of this matter by the ExA and appropriate assurances from the applicant with regards to the archaeological programme.

6.11. This is the same for both the marine and terrestrial environments.

Dr Will Fletcher
22.10.2024