



# Hornsea Project Four

## Written Summary of the Applicant's Oral Case at Issue Specific Hearing 4

**Deadline 4, Date: 10 May 2022**

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### Revision Summary

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### Revision Change Log

<i>Rev</i>	<i>Page</i>	<i>Section</i>	<i>Description</i>
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## 1 Introduction

1.1.1.1 Issue Specific Hearing 4 (ISH4) on the marine environment (excluding ornithology) for the Hornsea Project Four Offshore Wind Farm took place on 27 April 2022 at 10:00 am and was held virtually, with attendees attending via Microsoft Teams.

1.1.1.2 The ISH4 broadly followed the agenda published by the Examining Authority (the ExA) on 13 April 2022 (The Agenda). The ExA, the Applicant, and the stakeholders discussed the Agenda items which broadly covered the areas outlined below.

- Activities in the coastal and intertidal zone
- Dredge sampling characterization, monitoring and disposal site
- Further geophysical surveys
- Piling maximum design scenario
- Control of impacts on marine mammals
- Impacts on herring spawning
- Baseline surveys and modelling
- Identification of marine and coastal processes receptors
- Other points and AOB

**Table 1: Summary of the Issue Specific Hearing 4**

Item	ExA Question/Context for discussion	Applicant's Response
<i>Agenda Item 1 Welcome, introductions, arrangements for the Hearing</i>		
1	The Examining Authority ("ExA") opened the hearing, introduced themselves and invited those parties present to introduce themselves.	<p>The Applicant's representatives introduced themselves as follows:</p> <ul style="list-style-type: none"> <li>- Gary McGovern, Partner, Pinsent Masons LLP</li> <li>- Dr Julian Carolan, Consents Project Manager for Hornsea Four, Ørsted</li> <li>- Angela De Burgh, Benthic Ecologist, GoBe Consultants</li> <li>- Philip New, Fish and Shellfish Ecologist, GoBe Consultants</li> <li>- Rachel Sinclair, Marine Mammal Consultant, SMRU Consulting</li> <li>- Tim Mason, Subsea Noise Consultant, Subacoustech Environmental Ltd</li> <li>- Bill Cooper, Marine Processes Consultant, Cooper Marine Advisors Ltd</li> </ul>
<i>Agenda Item 2 Activities in the coastal and intertidal zone</i>		
2.1	The ExA asked the Applicant to provide an update on the location and monitoring of the access ramp. At Compulsory Acquisition Hearing 1, the ExA noted that Ms Brodrick on behalf of the Applicant explained that the ramp carried an access track to the beach for emergencies only, in the event that the horizontal directional drilling ("HDD") failed. The ExA asked the Applicant to confirm that this access ramp was covered by work no. 9d on the Works Plans and shaded orange and green.	<p>Mr McGovern, on behalf of the Applicant, confirmed that was correct.</p> <p>The ExA asked the Applicant to elaborate on the purpose of the landfall access ramp, what would be done to create it, and what it would look like once built. Mr McGovern noted that as explained by Ms Brodrick, the ramp would be used for emergency access to the beach. The method of construction and the nature of the ramp is described more particularly in the Project Description (APP-010) and Mr McGovern noted that there were some useful illustrations of the construction method shown on inset plates in ES figure 4.16. Broadly speaking, the method of construction would be to lower bags of sand or rock to be level with the cliff face and then to lay a surface on top. There would be no excavation of the cliff face as part of construction.</p> <p>The ExA asked where the material for the sandbags would be sourced from. Dr Carolan, on behalf of the Applicant, noted that the aggregate for the sandbags would be brought on site from external sources and stored in the landfall site construction compound before being lowered to the level of the toe of the cliff. Dr Carolan noted that ES figure 4.16 of the Project Description shows a number of insets. Inset A shows the running boards on top of which would be placed the bridge which would run from landfall to the beach.</p>

**Post-hearing clarification.** Inset A of Appendix A shows the spatial extent of the running boards (indicative ramp siting area (30 x 10 m) in Appendix A of this document), on top of which would be placed the bridge (indicative ramp (25 x 6 m) in Appendix A of this document) which would run from landfall to the beach.

The ExA asked for confirmation that the aggregate would be solid premade materials rather than anything erodible and Dr Carolan confirmed this was correct.

The ExA asked whether there would be any impact on the cliff profile and Dr Carolan confirmed there would not be any such impact. Dr Carolan confirmed there would be no excavation works and works would be above mean high water springs ("MHWS"). Mr Maclachlan on behalf of ERYC asked if the structure would be located within the intertidal zone. Mr McGovern confirmed that he understood it would not be.

**Post-hearing clarification.** The Applicant refers to Appendix A (Figure showing spatial extent of activities in the coastal and intertidal zone) and confirms there would be minimal works between mean high water springs ("MHWS") and mean high water (MHW).

The ExA asked the Applicant to confirm that the location and extent of the access ramp is correctly shown on the Works Plans and asked what delineates the eastern boundary of the structure. Mr McGovern advised that the Applicant believed the extent and location had been accurately shown on the Works Plans and that the eastern extent is above MHWS. Mr McGovern confirmed the Applicant was happy to submit a revised plan showing MHWS at Deadline 4. The Applicant refers the ExA to Appendix A: Figure showing spatial extent of activities in the coastal and intertidal zone. Inset A shows the extent of the access ramp in relation to Works No 9a (Inset A). The tidal limits are presented in Inset B of the same figure. Inset C delineates the eastern boundary of the structure (25 x 6 m) within the upper intertidal.

The ExA thanked the Applicant but asked whether, since MHWS changes according to beach profile, this was a satisfactory way of delineating the works. Dr Carolan for the Applicant noted that coastal erosion is monitored by ERYC and has been factored into the baseline. While there may be long-term changes to the beach profile, this is not anticipated to affect the representation of the tidal limits during a three-year construction period, which as shown on Inset B of Appendix A, vary naturally in relation to the variation of tidal limits at the site.

		<p>Following discussion between the ExA and ERYC, the ExA concluded that it accepted the Applicant's offer of a revised Works Plan showing MHWS in relation to the access ramp (see Appendix A). Mr McGovern confirmed the Applicant would consider the consequences of a change in MHWS however he noted that coastal erosion had been factored into the maximum design scenario. Please see Applicant's further submission in response to action point 1 below.</p> <p>The ExA highlighted Work No. 9a and stated that this seemed to be from MHWS to MLWS. Schedule 1 to the DCO shows Works No. 9a to be temporary vehicular access tracks. The ExA asked the Applicant what form these would take and whether an assessment had been undertaken of their impact.</p> <p>Mr McGovern confirmed that the Applicant would provide further detail in writing. The precise area where access may be needed is unpredictable which is why a large area has been highlighted, but the Applicant confirmed that only light vehicles or light excavation vehicles would need to use the access tracks. Please see Applicant's further submission in response to action point 2 below.</p>
2.1	The ExA asked the Applicant to confirm whether it had addressed Natural England's comments claiming the coastal erosion had not been fully assessed.	Mr McGovern on behalf of the Applicant confirmed that the Applicant had noted the comments of Natural England and had responded at Deadline 3 (see REP3-046).
2.1	The ExA asked the Applicant to clarify which organisation was responsible for monitoring coastal erosion	<p>Mr McGovern noted that ERYC already monitors the coastal erosion rate. The Outline Code of Construction Practice which describes the temporary access ramp and landfall works ("OCoCP") is a document to be submitted to and approved by ERYC.</p> <p>Mr McGovern noted that the Applicant was therefore unclear what purpose any monitoring of coastal erosion by the Applicant would serve. The fact that monitoring is already undertaken, coupled with the nature of the works and the nature and location of the access ramp, lead the Applicant to believe that such monitoring would not serve a useful purpose in the context of the Hornsea Four works.</p> <p>The ExA asked the Applicant and ERYC to discuss the matter and provide an update in a revised SoCG. The Applicant will provide an update at Deadline 5 in accordance with action point 3.</p>

2.2	<p>The ExA asked the Applicant to clarify whether the responses to the ExA's First Written Questions ("FWQs") (PDS.1.5) meant that the exit pits for HDD would not be located in the intertidal zone</p>	<p>Mr McGovern on behalf of the Applicant confirmed that the exit pits would not be located in the intertidal zone and that the Project Description, which is a certified document as part of the Environmental Statement, would be updated accordingly.</p> <p>The Applicant can confirm that the Project Description (Revision 4) has been updated and provided at Deadline 4 per response to action point 4 below.</p>
2.3	<p>The ExA noted that representations received from NE suggested that there was a lack of clarity around the three-month construction period for the coffer dams associated with the HDD exit pits. The ExA noted that the three-month period refers to each individual coffer dam and as such in theory there could be three sets of three-month construction periods to account for all the exit pits. The ExA noted that the Applicant believes a DML condition is not required to control this, since the Applicant is limited to what has been assessed in the Environmental Statement. The ExA asked if the Applicant's position on this remained the same.</p>	<p>Mr McGovern confirmed that the Applicant's position remained the same. The Applicant believes that the Project Description and Environmental Impact Assessment ("EIA") are clear. The need for coffer dams relates to a particular methodology for HDD. The maximum design scenario is clear that HDD could involve up to three HDD operations at a time, and each HDD operation could each take three months. The works have been assessed and the timescales are inherent to that assessment. The Applicant noted that if it were to attach conditions to everything assessed in the Environmental Statement, it would become a very onerous process and its position is that the Project Description is sufficiently clear in this regard.</p>
<p><i>Agenda Item 3 Dredge sampling, characterisation, monitoring and disposal site</i></p>		
3.1	<p>The ExA noted that the MMO had claimed that neither laboratory used for the sampling of dredge sediment was certified and that therefore the MMO cannot accept the results from uncertified laboratories. The EA asked the Applicant when a resolution could be expected.</p>	<p>Ms De Burgh, on behalf of the Applicant, explained that there had been an error in the details of the laboratories provided on the MMO return forms and that this would be rectified and re-submitted to the MMO and the ExA by deadline 4. Ms De Burgh also confirmed that the PAH lab certificate analysis would be submitted by deadline 4. This information has been provided as an update to G1.44 Hornsea Four Contaminated Sediments Clarification Note at Deadline 4.</p>
3.2	<p>The ExA noted that the deemed marine licences ("DMLs") had been updated at deadline 2 in order to avoid any overlap of the dredging disposal sites between Hornsea Four and Doggerbank. The ExA queried whether the Doggerbank disposal area plan which has been added to Schedule 15 as a certified document, has been submitted into the examination.</p>	<p>Mr McGovern, on behalf of the Applicant, noted that the overlap area is excluded from the Applicant's dredging disposal site by virtue of the revised drafting in the DMLs, including coordinates which delineate the disposal area excluded from the definition of the Applicant's "cable corridor disposal site" (see article 1 of Part 1 of Schedule 12 of the draft DCO).</p> <p>Mr McGovern confirmed the Applicant would review the name of the plan and provide clarification by Deadline 4. Please see Applicant's further submission in response to action point 7 below.</p>



		<p>The ExA also noted that the Applicant intended to revisit the potential impacts of drill arisings and submit a note on that subject at Deadline 5. The ExA asked to what extent the concern on sediment disposal had been addressed in that note. Mr McGovern advised that the submissions made to date by the Applicant, along with the note to be submitted at Deadline 5, should address all outstanding issues on drill arisings and sediment disposal.</p>
3.3	<p>The ExA invited the Applicant to make any comment on the MMO's request for ongoing monitoring of sediment samples.</p>	<p>Ms De Burgh commented on behalf of the Applicant that the recommendation from the MMO was that sediment is to be sampled and analysed every five years. It is currently planned that all offshore construction works for Hornsea Four will be completed within five years of commencement and as such, sampling of dredging would be somewhat redundant and not be required during those timescales.</p> <p>Ms De Burgh noted that details of dredge and disposal activities will be included in the Construction Method Statement and the Construction Project Environmental Monitoring Plan (secured via condition 13 of Part 2 of the DMLs) and the Applicant considers this mechanism to be sufficient to ensure that the regulators can approve details in relation to the dredge and disposal activities. The Applicant confirmed it would continue to pursue agreement with the MMO via the SoCG process.</p>
<p><i>Agenda Item 4 Further geophysical surveys</i></p>		
4.1	<p>The ExA sought clarification on the various parties' positions in relation to geophysical surveys undertaken in 2021. The ExA noted that the Applicant's deadline 2 submissions (REP3-035) suggested that surveys may be exempt activities for the purposes of marine licencing.</p>	<p>Mr McGovern, on behalf of the Applicant, confirmed that was the case and that the Applicant was aligned with the MMO in this regard. Mr McGovern noted that geophysical surveys were a standard part of post-consent design and engineering process. This is addressed in the Outline Marine Monitoring Plan ("OMMP") which refers to the types of standard surveys conducted. Mr McGovern also confirmed that it was reasonably common for geophysical surveys to benefit from the exemption that the MMO has drawn to the ExA's attention, since such surveys do not generally give rise to significant effects.</p> <p>Mr McGovern confirmed that the surveys were described and acknowledged in the EIA and clarified that the Applicant is not seeking consent for them in the DMLs as they would generally be exempt activities.</p>
4.1	<p>The ExA noted that in responses to the FWQs, NE queried whether surveys are likely to include sub-</p>	<p>Mr McGovern stated that the need for sub-bottom profilers could not be excluded but clarified that there are different types of sub-bottom profilers and the nature of effects they each have are</p>

	<p>bottom profilers. The ExA asked the Applicant whether it knew yet whether sub-bottom profilers would be needed.</p>	<p>different. The type of sub-bottom profilers used in offshore wind farms are not the type that would give rise to the type of effects NE are concerned about.</p> <p>The ExA asked what process the Applicant would go through if the sub-bottom profiles did have likely significant effects. Mr McGovern clarified that this would again depend on the exemption regime and the nature of the sub-bottom profiler would dictate whether an exemption was available. If no exemption was available, the Applicant would need to apply for a marine licence.</p>
<p>4.1</p>	<p>The ExA referred to the clarification note from the Applicant submitted at deadline 3 on the maximum design scenario. The ExA asked if it was correct that the Applicant was proposing a reduction in bedform clearance for cables and Smithic Bank rock protection in response to concerns from Natural England.</p>	<p>Mr McGovern confirmed that was correct and that these matters had not yet been discussed with NE.</p> <p><b>Post-hearing clarification:</b> The Applicant has updated the disposal volumes in Part 1 of Schedule 1 of the draft DCO to reflect the reduction in MDS and is currently considering whether any updates are required in relation to the Smithic Bank rock protection.</p>

*Agenda 5 Piling maximum design scenario*

<p>5.1</p>	<p>The ExA noted that the MMO had enquired whether the single rate specified for monopile foundation piling was a maximum rate for every 24 hours. The Applicant had submitted a clarification note at deadline 3 (REP3-033). The ExA asked the Applicant if it was correct to conclude that there could be two monopiles installed sequentially.</p>	<p>Mr McGovern, on behalf of the Applicant, confirmed that there could be up to two foundations piled simultaneously, concurrently or sequentially within a 24 hour period and this was secured via condition 13(5) of Part 1 of Schedules 11 and 12 of the draft DCO.</p> <p>Mr Mason, on behalf of the Applicant, confirmed that detailed modelling has already been carried out to consider two piles being installed simultaneously, which is the option that would give rise to the greatest effect.</p> <p>Mr McGovern, on behalf of the Applicant, confirmed the Applicant did not believe it changed the basic approach to mitigation which is to secure it via the Outline Marine Mammal Mitigation Protocol and the Outline Southern North Sea Special Area of Conservation Site Integrity Plan, with any final measures to be confirmed post-consent.</p> <p>The ExA asked whether the additional noise modelling took account of existing mitigation measures in the Commitments Register. Mr Mason confirmed that those measures were factored in insofar as the ramp ups/soft starts, duration of soft starts and the strike rate of soft starts. All these measures reduce exposure for the receptors.</p>
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		<p>The ExA summarised therefore that industry standard mitigation had been factored in but mitigation at source had not. Mr Mason confirmed that at source mitigation had not been considered in the modelling at this stage but could be post-consent once the final project parameters and any necessary mitigation was identified.</p>
<p><i>Agenda 6 Control of impacts on marine mammals</i></p>		
<p>6.1</p>	<p>The ExA noted that the proposed mitigation for underwater noise focussed on sound pressure level permanent threshold shift and not cumulative sound exposure level. The ExA asked the Applicant to explain which approach was taken in the recent decisions on East Anglia One North and East Anglia Two.</p>	<p>Mr McGovern, on behalf of the Applicant, confirmed that the Applicant would confirm this for Deadline 4. Please see Applicant's further submission in response to action point 11 below</p>
<p>6.2</p>	<p>The ExA queried how detailed the specification of mitigation at source needed to be at this stage, noting that the Applicant had submitted a clarification note at deadline 2 (REP2-050).</p>	<p>Mr McGovern on behalf of the Applicant confirmed that the Applicant remained of the view that specifying at source mitigation measures to be delivered was not appropriate at this stage and to do so would be out of line with precedent. The Applicant confirmed it had reviewed the position on other offshore windfarms and the position the Applicant is taking is in line with the approach of the developers for Norfolk Vanguard, Norfolk Boreas, and Hornsea Three. There are a range of uncertainties and matters to be determined post-consent, which mean that there will be multiple scenarios and the type and measure of mitigation can therefore not be exactly defined at this stage.</p> <p>Mr McGovern noted that the possibility of at source mitigation is expressly acknowledged in the Outline Marine Mammal Mitigation Protocol and Outline Southern North Sea Special Area of Conservation Site Integrity Plan and that the Applicant had gone further than other developers to date by submitting the clarification note at deadline 2.</p> <p>Mr McGovern confirmed the Applicant would review the approach taken in the East Anglia One North and East Anglia two decisions and confirm the position at deadline 4. Please see Applicant's further submission in response to action point 12 below</p>
<p><i>Agenda 7 Impacts on herring spawning</i></p>		
<p>7.1</p>	<p>The ExA noted that the Applicant produced a revised version of the Peak Herring Spawning Period and Seasonal Piling restriction clarification note at deadline</p>	<p>Mr New on behalf of the Applicant noted that the requests for changes from the MMO were to include additional conservatisms within the assessment which was undertaken. Mr New confirmed these conservatisms were to increase the length of the larva catch size which was assumed would</p>

	<p>2 which had been updated in response to comments from the MMO. The ExA asked for an update on any progress made for the Applicant to briefly outline the changes to the clarification note made at deadline 2.</p>	<p>in turn increase the growth time to reach catch size. A number of other scenarios in larva hatch length were also provided to provide a further range of potential dates which could indicate commencement of peak spawning period.</p> <p>Mr New confirmed the Applicant's position is that the 30 August start date is excessively conservative as it includes multiple conservatisms which layer on top of each other and, as such, 5 September, as identified in the original clarification note, remains appropriate. Nevertheless, Mr New clarified that 30 August to 10 September was the potential start date range for the spawning period but the end date had not yet been defined as there was insufficient data to do so and so the Applicant has aligned with precedent set on previous projects for the peak spawning period of 1st September – 16th October.</p> <p>Mr New confirmed it is very difficult to tell whether there is a peak day for spawning as the only way to do so is to detect for larvae. The ExA asked if it would be correct to say that the spawning builds to a peak period and then dies down again and Mr New confirmed this was correct.</p> <p>The ExA asked if it was therefore possible to apply confidence intervals to the population to define a percentage of the population spawning at any particular period. Mr New advised that he did not consider the data was available currently to be able to do that.</p>
7.2	<p>The ExA asked whether the differences between the Applicant and the MMO on sediment effects were best addressed by further discussions between the parties and updates in the SoCG.</p>	<p>Mr McGovern on behalf of the Applicant agreed this was a sensible approach.</p>
<p><i>Agenda 8 Baseline surveys and modelling</i></p>		
8.1	<p>The ExA asked the Applicant to briefly outline the scope of the biotope modelling and rationale for that scope.</p>	<p>Ms De Burgh, on behalf of the Applicant, stated that the Applicant's emphasis was that the primary purpose of the model was to address data gaps in the Preliminary Environmental Impact Report ("PEIR"). A survey of the export cable corridor ("ECC") had not been completed at that stage and could not be included in the PEIR. The model collated all available data to build a picture within the order limits as well as a wider study area. Site-specific data collection was subsequently completed (post-PEIR) across the ECC which was then prioritised so that the real data superseded any model predictions across order limits. The earlier modelling was well received and as such remained in the DCO application as it provides contextualisation and aids understanding of the benthic environment.</p>

		<p>The ExA asked the Applicant if it was involved in discussions with NE on the biotope modelling and whether NE was happy that the revised output is more reliable.</p> <p>Ms De Burgh confirmed that the Applicant had provided NE and the MMO with feedback on the points discussed with and that they seemed to be coming to understand the modelling more clearly although she would defer to NE and the MMO on that.</p>
8.2	<p>The ExA asked the Applicant to confirm the approach to the marine and coastal processes supplementary work and to provide a brief summary of the findings and highlights so far.</p>	<p>Mr McGovern noted that in relation to the supplementary work, it was still the Applicant's intention to submit the report at Deadline 4. The report is being prepared by Royal HaskoningDHV and will present information which will hopefully resolve the concerns of NE and the MMO. The Applicant confirmed that Professor Mike Elliot is an independent expert in the field that has been separately appointed to review the report alongside the MMO and NE and that report would be submitted at Deadline 5.</p> <p>The ExA noted that one of NE's concerns was that potential receptors had been omitted in the original baseline and asked whether these had now been included.</p> <p>Mr McGovern advised that the receptors were never excluded from consideration and the issue appears to be one of a difference in methodology. The Applicant had carried out its analysis on a source-pathway-receptor basis but the MMO and NE wanted to see an analysis with a focus on a receptor approach. Mr McGovern clarified that the Applicant believes all the required information was already included, but the revised report will supplement and bring it together in a more accessible format.</p>
8.3	<p>The ExA asked if the status was the same for the marine and coastal processes baseline for the Flamborough Front</p>	<p>Mr McGovern confirmed that was correct.</p>
<p><i>Agenda 9 Identification of marine and coastal processes receptors</i></p>		
9.1	<p>The ExA noted that NE and the MMO had raised Hills and the Outer Silver Pit as potential receptors.</p>	<p>Mr McGovern advised that the Hills and Outer Silver Pit were not considered to be impacted as there was no pathway.</p> <p>Mr Cooper, on behalf of the Applicant, clarified that the Applicant's studies had defined a study area that included all features that have been discussed, including the Hills and the Outer Silver Pits. The study considered the relationship between those features and the development of the wind farm.</p>

		<p>The Hills is an area of large-scale sand ridges which are located to the north-west of the array and are updrift in terms of the sediment pathway. As scour protection is proposed, this mitigates any potential scouring, and the fact that the distance between the array and the ridge is so great means that there is no pathway which connects the two, meaning there is no relationship formed between the source and the receptor.</p> <p>The Outer Silver Pit is a geologically formed valley which is not maintained by contemporary marine processes. It is seaward of the array area. Its proximity to the array has been noted but this proximity does not mean there is a connection between the source and the receptor. As the tidal effect would run parallel to the pit and is not orientated in this direction, there is no pathway.</p> <p>Mr Cooper confirmed that discussions were continuing with NE and that the Applicant was working on the basis that it would be able to reach agreement with NE. Mr McGovern confirmed that any progress would be documented in the SoCG.</p>
<p><i>Agenda 10 Other points and AOB</i></p>		
<p>10.1</p>	<p>The ExA asked if turbine cleaning would be added to the impacts register in the EIA.</p>	<p>Ms De Burgh advised that the MMO wanted the Applicant to consider turbine cleaning in the EIA but that in terms of benthos it is not an impact that would need to be assessed, as marine growth and bird waste will be washed off by hand followed by high pressure seawater washing. Any technicians and equipment would be deployed from crew transfer vessels, meaning there would be no impact from anchoring or jack up vessels.</p> <p>The ExA asked for clarification from the Applicant, as this seemed to be in contradiction to a submission from deadline 2 which suggested the impact had been missed from the impacts register.</p> <p>Mr McGovern apologised if the submission had caused confusion. The cleaning was not expressly mentioned in the EIA but it is referred to in the Outline Offshore Operations and Maintenance Plan. Mr McGovern summarised that the cleaning only involved natural substances entering the marine environment so there would be no risk of an adverse impact.</p>
<p>10.2</p>	<p>The ExA raised NE's concerns with the definitions of magnitude in the Environmental Statement and asked the Applicant to briefly summarise the Applicant's response to NE's concerns.</p>	<p>Mr McGovern noted that the Applicant's position was that it did not agree with NE's comments. The Applicant does not agree that the definitions are too broad or that there has been anything inappropriate in the use of those definitions. The matrix is a guide which informs professional opinion but it does not dictate the end result. The framework used is the widely recognised and uses the</p>

		<p>Design Manual for Roads and Bridges (DMRB) framework. This approach was used for Hornsea Three and issue was not taken with its use. Mr McGovern confirmed that the Applicant had also reviewed EIAs on other offshore windfarm projects and saw no material differences. As such, the Applicant does not understand the concerns of NE and why they are raising this issue in the context of this project.</p> <p>The ExA asked if it was likely that NE and the Applicant would reach agreement before the close of examination.</p> <p>Mr McGovern noted that the two parties' positions were quite distinct and were unlikely to change.</p>
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*Agenda 1.1 Action Points*

	<p>Written summaries of the oral submissions at the hearing are to be submitted by deadline 4. The action points were to be published on the PINS website.</p>	<p>N/A</p>
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**The ExA adjourned the hearing at 11:57.**

**Table 2: Action Points**

Action	Description	Action by	Deadline	Applicant's Comment/where has the action been answered.
1	<p>Further consideration of the definition and mapping of the eastern boundary of Works Area 9d (temporary ramp to beach) on the Works Plans as the geographical position of Mean High Water Springs varies according to beach level, and if it moved westward the base of the ramp could intrude into the intertidal zone.</p>	Applicant	4	<p>The Applicant is still considering this issue and will provide a response at Deadline 5.</p>
2	<p>Provide definition and description of any activities and works that might be carried out on the beach in works area 9a ('temporary vehicular access tracks'). Confirm responsibility and process for monitoring activities and enforcement of mitigation in regard to works area 9d and 9a where in the intertidal zone.</p>	Applicant	4	<p>The activities likely to be carried out on the beach in works area 9a ('temporary vehicular access') are in emergency only. It is highly probable that the vehicular access to the foreshore may not be required. Should vehicular access be required it is likely to comprise:</p>

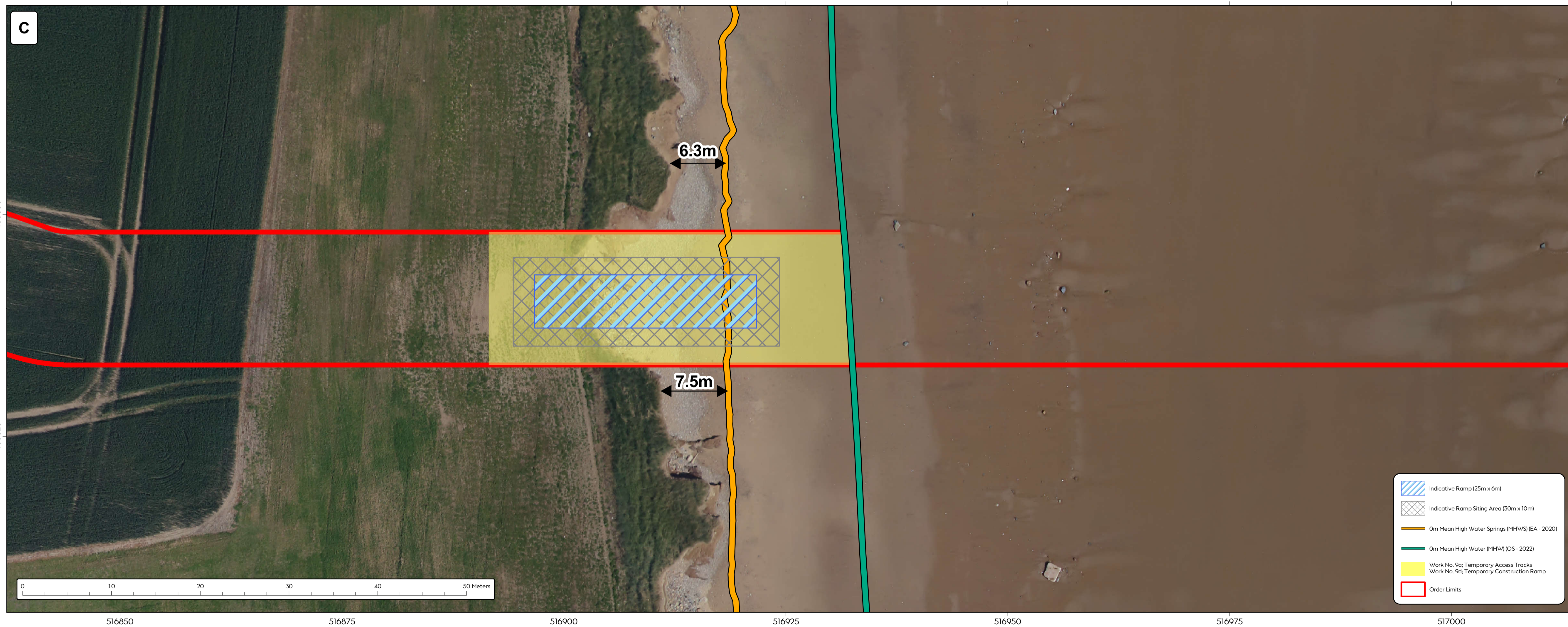
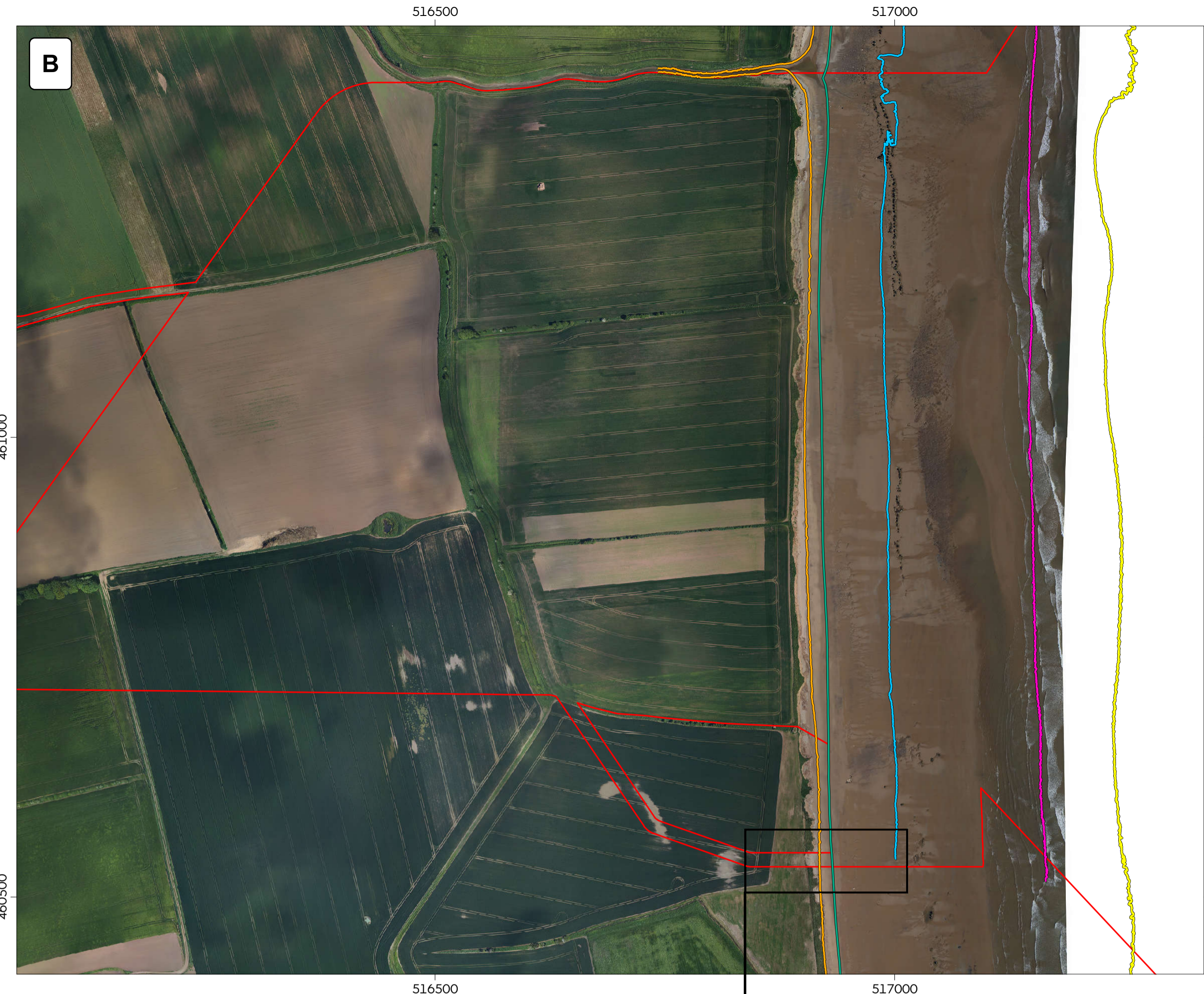
Action	Description	Action by	Deadline	Applicant's Comment/where has the action been answered.
				<ul style="list-style-type: none"> <li>Tracked excavator - to carry the associated equipment or material that would be required to contain the bentonite. i.e sandbags or concrete rings.</li> <li>Tracked vehicle or tractor with a vacuum bowser to recover the bentonite</li> <li>Argocat or a similar vehicle for that is suitable for beach use to transport the personnel to the location on the beach.</li> </ul> <p>In relation to regulatory responsibility in the intertidal, the Applicant refers to its response to Agenda Item 2.1 and action point 3 of Issue Specific Hearing 3. The explanation provided there in relation to the regulation of archaeological matters in the intertidal is of wider application.</p>
3	Progress agreement through Statement of Common Ground (SoCG) process on East Riding of Yorkshire Council (ERYC) expectations for beach monitoring, including whether regular monitoring of the beach levels during construction would be necessary.	Applicant East Riding of Yorkshire Council	5	This will be dealt with through the SoCG process.
4	Update Environmental Statement Project Description to confirm that the Horizontal Directional Drilling (HDD) exit pit location would not be above Mean Low Water Springs.	Applicant	5	The Applicant can confirm that the Project Description has been updated and provided at Deadline 4.
5	Natural England to comment further on Applicant's ISH4 explanation that no draft Development Consent Order (dDCO) Requirement would be necessary to control the number and duration of cofferdams at the HDD exit pits.	Natural England	4	
6	Provide update on agreement with Marine Management Organisation (MMO) of suitability of dredged sediment for disposal and validation of the laboratories used, through the SoCG process.	Applicant The MMO	4	This information has been provided as an update to <a href="#">G1.44 Hornsea Four Contaminated Sediments Clarification Note</a> at Deadline 4.



Action	Description	Action by	Deadline	Applicant's Comment/where has the action been answered.
7	Review labelling of relevant plans and control through the dDCO of avoiding the 'overlap area' in relation to proposed dredged material disposal.	Applicant	4	The Applicant can confirm that the plan was labelled incorrectly when submitted at Deadline 2. The title of document <a href="#">G2.12 Interaction Between Hornsea Four and Dogger Bank Creyke Beck Development Consent Order (DCO) Limits</a> (REP2-048) has been updated to correspond to the document name stated in the Schedule 15 of <a href="#">C1.1 Draft DCO including DML</a> to <a href="#">G2.12 Dogger Bank Disposal Area Plan</a> and resubmitted at Deadline 4.
8	Continue to seek agreement with the MMO regarding monitoring of sediment samples through the SoCG process.	Applicant	4	This will be dealt with through the SoCG process.
9	Capture reductions in the Maximum Design Scenarios for volumes for bedform clearance for cables and for the Smithic Bank Cable Protection, in the dDCO, Project Description and Pro-rata Annex.	Applicant	4	Please see updated versions submitted at Deadline 4 of <a href="#">C1.1 draft DCO including DML</a> , <a href="#">A4.4.8 Pro-rata Annex</a> and <a href="#">A1.4 Project Description</a> . The Applicant is currently considering whether any updates are required in relation to the Smithic Bank rock protection. A further update will be provided at Deadline 5.
10	Provide clarification of concerns regarding exclusion of SELcum impact ranges in the approach to Marine Mammal Mitigation Protocol following Applicant's response [REP1-038] to [RR-020-4.3.4] and discussions at ISH4.	The MMO	4	
11	Provide a comparison with the proposed approach to underwater noise mitigation at source with those accepted by the Secretary of State in the recent East Anglia offshore wind farms Habitat Regulations Assessments.	Applicant	4	<p>The Applicant confirms that the cumulative PTS-onset impact ranges predicted for pile driving at East Anglia One North and East Anglia Two are similar in range to those predicted for Hornsea Four. The East Anglia One North HRA document (March 2022) states that "the MMMP for piling will be developed in the pre-construction period and will be based upon best available information, methodologies and industry best practice. The protocol will be developed with the MMO and relevant SNCBs".</p> <p>A clarification note regarding cumulative PTS for Hornsea Four has been submitted at Deadline 4.</p>

Action	Description	Action by	Deadline	Applicant's Comment/where has the action been answered.
12	Produce an updated clarification note on proposed process for underwater noise mitigation which would be secured through the Marine Mammal Mitigation Protocol, with reference to precedent from other recent Offshore Wind Farm developments	Applicant	4	The East Anglia One North draft Marine Mammal Mitigation Protocol (v4, March 2021) states that: <i>"The final MMMP for piling will ensure there are embedded mitigation measures, as well as any additional mitigation, if required, to prevent the risk of any physical or permanent auditory injury to marine mammals. This will be developed in the pre-construction period, when there is more detailed information on the proposed East Anglia ONE North project design (and environmental conditions) and hence, it will incorporate the most appropriate mitigation measures based upon best available information and proven methodologies at that time"</i> . The MMMP states that additional mitigation such as acoustic deterrent devices (ADDs) and passive acoustic monitoring (PAM) could be included, however the MMMP makes no reference to using at-source noise abatement methods. Equivalent text is found in the East Anglia Two draft MMMP.
13	Submit promised response to Applicant's clarification note regarding mitigation of noise impacts on herring spawning.	The MMO	4	
14	Progress resolution of National Federation of Fishermen's Organisations/ Holderness Fishing Industry Group concerns on fish and shellfish ecology matters through the SoCG process	Applicant	4	This will be dealt with through the SoCG process.
15	Submit supplementary bathymetry and coastal processes report, to include responses to MMO's submission at Deadline 3 [REP3-052] on the Flamborough Front and collating all relevant Examination evidence on the matters.	Applicant	4	The Marine Processes Supplementary Report (G4.9) has been submitted at Deadline 4.
16	Submit independent expert review of updated bathymetry and coastal processes report.	Applicant	5	This work will be submitted at Deadline 5.

## Appendix A



# Hornsea Project Four Offshore Wind Farm Landfall Access Ramp and Tidal Levels

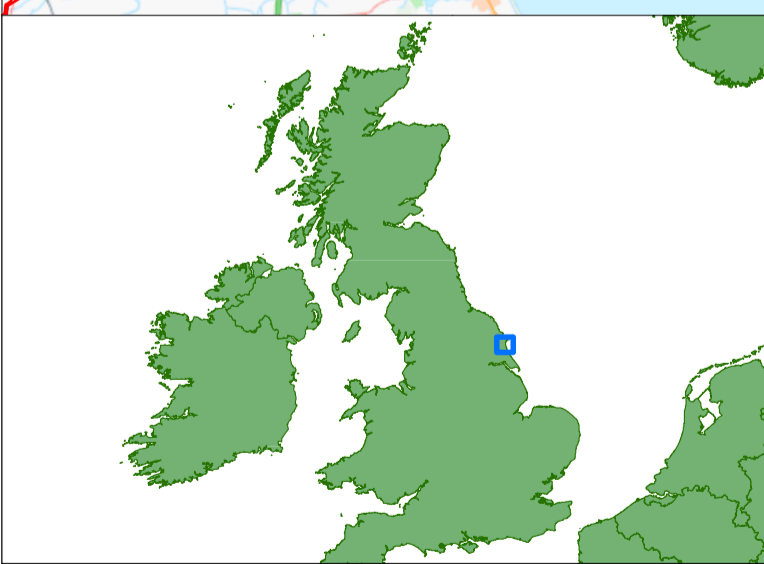
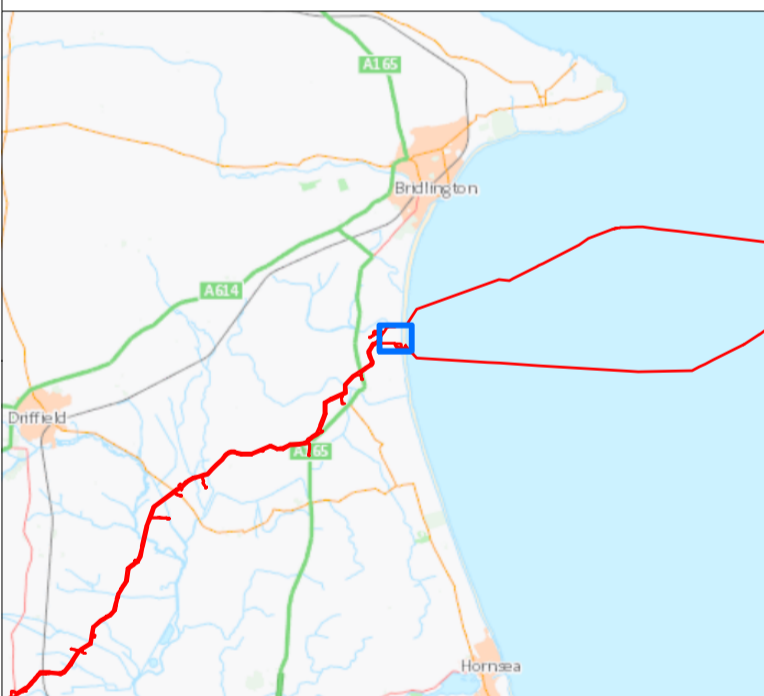
- 0m Mean High Water Springs (MHWS) (EA - 2020)
- 0m Mean High Water (MHW) (OS - 2022)
- 0m Ordnance Datum Newlyn (ODN) (EA - 2020)
- 0m Lowest Astronomical Tide (LAT) (Fugro - 2020)
- 0m Mean Low Water Springs (MLWS) (Fugro - 2020)
- 0m Mean High Water Springs (MHWS) (EA - 2020)
- Work No. 9a; Temporary Access Tracks
- Work No. 9a; Temporary Access Tracks  
Work No. 6; Onshore Connection Works
- Work No. 9a; Temporary Access Tracks  
Work No. 9a; Temporary Construction Ramp
- Work No. 6; Onshore Connection Works
- Work No. 9a; Temporary Access Tracks  
Work No. 9a; Temporary Logistics Compounds  
Work No. 6; Onshore Connection Works
- Work No. 5; Landfall Connection Works
- Order Limits

All tidal levels are calculated based on seabed/beach elevations at the time of data acquisition.

MHWS and ODN derived from Environment Agency DTM Lidar Data 2020. LAT and MLWS derived from Fugro 2020 MBES Data.

MHWS and MLWS calculated using UK08 VORF model and reducing data via ETRF89.

Sources:  
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Coordinate system: British National Grid  
Vertical reference: ODN  
Scale @ A1: 1:3,750

0 25 50 100 150 200 250 Meters  
0 25 50 100 150 200 250 Yards

REV	REVISION	DATE

Landfall Access Ramp and Tidal Levels  
Document no: H0W040574  
Created by: WJG  
Checked by: XTRCP  
Accepted by: KELLY  
Approved by: JAHB