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AQUIND INTERCONNECTOR

Environmental Statement – Volume 3 – Appendix 14.2 Marine Archaeology Consultation Responses

The Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 – Regulation 5(2)(a)

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

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Environmental Statement – Volume 3 –

Appendix 14.2 Marine Archaeology

Consultation Responses

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TABLE 1: SCOPING RESPONSES

Consultee	Scoping Opinion ID/Page	Summary of Comment Received	How this was addressed by the Applicant
Planning Inspectorate ('PINS')	Section 14.4 and Chapter 2	<p>The Inspectorate notes reference to a variety of surveys, including geophysical surveys, which could be used to inform the baseline and assessment of impacts to archaeological assets. Reference is also made to surveys that could inform post-consent data archaeological analysis. It is not clear if such surveys have been or will be undertaken with archaeological interpretation in mind, and this should be specified.</p> <p>The Environmental Statement ('ES') should clearly set out the methodology and processes followed with regard to the data analysis and interpretation undertaken to determine the significant of impacts. Sufficient information should be provided within the ES to determine the potential impacts of the Proposed Development.</p>	<p>Surveys were undertaken with archaeological interpretation in mind and are further discussed in Section 14.5 of this chapter and in Appendix 14.1 (Marine Archaeology Technical Report) of the ES Volume 3 (document reference 6.3.14.1).</p> <p>The method of assessments is described in Section 14.4 of this chapter and in Appendix 14.1 1 (Marine Archaeology Technical Report).</p>
PINS	Paragraph 14.3.5	<p>The ES should clearly identify the proposed mitigation measures to be included in respect of marine archaeology. A Written Scheme of Investigation ('WSI') should steer the final design of the interconnector cable and appropriate mechanisms should be clearly laid out to deal with any finds during implementation. Mitigation</p>	<p>Mitigation measures such as (Archaeological Exclusion Zones ('AEZs'), WSI and Protocol for Archaeological Discovery ('PAD') are discussed in Section 14.8 of this chapter and in</p>

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		measures including any AEZs should be clearly identified. The ES should also explain how the WSI, including any AEZs, are to be appropriately secured.	Appendix 14.3 (Outline WSI) of the ES Volume 3 (document reference 6.3.14.3).
PINS	Paragraphs 2.2.10 and 2.1.50	The Inspectorate notes reference in the Scoping Report to various preconstruction/post-consent ground condition surveys, geo-physical surveys or remotely operated vehicles (ROVs). Whilst this information would be gathered to inform any bathymetric changes, presence of Unexploded Ordnances ('UXOs'), and monitor the works, such processes should also allow for archaeological analysis to inform final route selection prior to route clearance and installation and to identify any anomalies of known or possible archaeological interest are avoided in accordance with a defined mitigation strategy.	Acknowledged and mitigation is covered within the ES in Section 14.8 of this chapter and Appendix 14.3 (Outline WSI).
PINS	N/A	The ES should clearly define the study area and Zone of Influence ('ZOI') applied to the marine archaeology aspect chapter.	The study area is described within Section 14.1 of this chapter. The ZOI is defined within Section 14.7 and Appendix 14.4 (Marine Archaeology Cumulative Assessment Matrix) of the ES Volume 3 (document reference 6.3.14.4).

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PINS	N/A	Appropriate cross-referencing between this aspect chapter and other relevant aspects, such as physical processes, should be included in the ES.	This has been addressed within the chapter.
Historic England ('HE')	Paragraph 2.1.8 (Marine Surveys) & 2.1.9	HE acknowledges the resulting data capture as sufficient to inform the ES. They further point out that archaeological analysis and interpretation of survey data acquired post-consent is essential and should be programmed sufficiently ahead (e.g. 6 months) to inform final route selection prior to installation.	Noted
HE	Paragraph 2.1.14 (seabed debris)	HE notes that archaeological assessment is to be completed prior to route clearance to ensure that any anomalies of known or possible archaeological interest are avoided in accordance with a defined mitigation strategy.	Noted
HE	Paragraph 2.1.27 and 2.1.39	HE stresses the relevant attention that is to be given to ascertaining whether or not any known or unknown historic or archaeological features exist within any identifiable impact zone. Paragraph 2.1.50 explains that Horizontal Directional Drilling ('HDD') will be conducted under Langstone Harbour from Portsea Island to the	Noted

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		<p>mainland and we must add that all such works are to be planned with full consideration of the historic environment. Therefore, any associated survey programmes required to inform HDD should be subject to archaeological interpretation and analysis in accordance with an agreed WSI, as alluded to in paragraph 14.4.2. We note, however, that while marine licence consent is not necessarily required, adequate provision within any Development Consent Order (DCO) should allow for a WSI to address this aspect of the proposed project.</p>	
<p>HE</p>	<p>Paragraph 14.3.4</p>	<p>HE notes that geotechnical data acquisition that is sufficient to support palaeo-environmental analysis is also directly relevant to the preparation of the ES.</p> <p>HE also point out that the ES should clearly explain the processes and procedures for data analysis and interpretation that enables identification of possible impact that might be direct or indirect, negative or positive. Following this analysis, the ES should set out the full set of necessary mitigation measures, such as preparation of an archaeological WSI, should consent be obtained.</p>	<p>Mitigation measures such as AEZs, WSI and PAD are discussed in Section 14.8 of this chapter and in Appendix 14.3 (Outline WSI).</p>

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		HE adds that all relevant project documentation used by any project contractor or sub-contractor is to utilise a PAD and implement measures such as AEZs, as and when necessary, in consultation with HE and/or relevant local curator.	
Maritime & Coastguard Agency ('MCA')		The MCA remind the consent holder to their obligations to report any recovered wreck material to the MCA Receiver of Wreck, and are required to take any recovered wreck to a United Kingdom ('UK') port only.	Noted

TABLE 2: PEIR CONSULTATION RESPONSES

Consultee	Comment Received	How this has been addressed by the Applicant
HE	In general, we are largely content with the impact assessment for archaeological receptors, in terms of the potential impacts considered, the size of the study area, and the range of datasets included at this stage. However, we wish to make the following comments with regards to the installation methods proposed, the archaeological assessment, and the mitigation measures suggested.	Acknowledged.

Consultee	Comment Received	How this has been addressed by the Applicant
HE	<p>HE acknowledges that the current methodology for the installation of the cable at the landfall site is HDD, which will emerge in the intertidal zone approximately 1km seawards from the Transition Joint Bays ('TJBs') in the car park behind Fraser Range. This method should be mindful of the potential to encounter archaeologically significant deposits within the sediment profile, and as such a strategic programme of investigation should be conducted to assess the potential of the deposits.</p>	<p>An Outline WSI has been submitted and is presented as Appendix 14.3. Any possible further studies are considered within Section 9 of the Outline WSI (see Appendix 14.3), and will be agreed and implemented post-consent as part of the conditions of the deemed Marine Licence ('dML').</p>
HE	<p>HE understand that a range of pre-installation clearance and preparation works may be required, including clearance of mobile bedforms, boulders, seabed debris, out of service cables, disposal of excavated material and UXO clearance, although UXO clearance will be consented through a separate marine licence. It should be noted that such activities could potential cause serious damage to features of the marine historic environment is present within the area to be impacted by the development. As such, suitable mitigation measures should be developed in consultation with the archaeological curator.</p>	<p>Acknowledged.</p> <p>Section 9 and Appendix 1 of Appendix 14.3 includes details of a range of mitigation for those activities being consented under this Development Consent Order ('DCO')/dML.</p> <p>The WSI covers UXO surveys however, as the detonations of UXOs will be carried out under a separate marine licence, any impacts and mitigation measures required will be considered under that application. At this time, it is expected that the Marine Management Organisation ('MMO') will consult with relevant bodies including HE when determining a future application for UXO detonations.</p>

Consultee	Comment Received	How this has been addressed by the Applicant
HE	<p>HE note that installation methods may include burial simultaneously with cable-lay, pre-lay burial or post-lay burial, with installation methods including trenching, ploughing and dredging. In some instances, non-burial cable protection methods, such as mattresses and rock placement, may also be required. All of these methods have the potential to seriously damage archaeological features, should they be present within the area to be impacted by the development. HE further note from the documents that it is the intention to install the cables using in-line joints, but that it is possible that omega joints may be required in some places. This will increase the area impacted by the works. As such, suitable mitigation measures should be developed in consultation with the archaeological curator.</p>	<p>Any omega joint used would not extend beyond the currently assessed Marine Cable Corridor and as such any likely impact under the worst-case scenario has been assessed. The mitigation currently proposed is therefore deemed sufficient and Sections 7 and 9 of the Outline WSI in Appendix 14.3 (Outline WSI) and includes details of mitigation measures including a PAD and AEZs’.</p> <p>An updated WSI will be submitted for approval by the MMO post consent as part of the dML requirements.</p>
HE	<p>Installation methods may require the use of grounding, within the intertidal area, and/or anchor spreads to maintain their position during installation. Both grounding and the use of anchors should also be mindful of archaeological features and follow mitigation procedures developed for the project. Additionally, HE note that there is the potential for the use of ‘flotation pits’ to facilitate the installation of the cable within the nearshore area. It should be noted that the excavation of potentially large areas of the seabed could have a significant impact to both surface and burial archaeological features. This methodology would require careful mitigation to prevent impacts to the features of the marine historic environment.</p>	<p>The use of flotation pits is no longer being proposed and is not included in the final project description and therefore has not been assessed in the ES.</p> <p>The possible impacts from grounding of vessels and anchor spreads has been assessed within this chapter in Section 14.6.</p>
HE	<p>HE are therefore disappointed to note that paragraph 14.4.8.3 states that ‘as the design and construction methods for the</p>	<p>The use of flotation pits and TSHD for pre-lay trenching for construction/installation of the</p>

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	<p>Proposed Development are still evolving at the time of writing of this chapter, not all the proposed construction methods have been assessed.' Those not assessed include; the use of flotation pits to permit vessels to approach closers onshore, grounding of installation vessels, use of a Trailing Suction Hopper Dredger ('TSHD') to create the pre-lay trench. As these are some of the methods with the greatest potential for interaction and impact to heritage assets, to not include them within the preliminary environmental assessment makes it difficult for us to assess the full potential impact of the scheme. HE therefore request that further information regarding these methods is included within the EIA.</p>	<p>cables is no longer proposed and is not included within Proposed Development Project Description.</p> <p>All other proposed construction methods including grounding of vessels and use of anchor spreads has been assessed further within the chapter in Section 14.6. As any impact will likely be within the Marine Cable Corridor it will be subject to the already proposed mitigation.</p>
HE	<p>Additionally, HE find that the information provided within Chapter 3 is insufficient to determine the maximum impacts of these techniques, in terms of both seabed surface and sediment depth to be impacted. Whilst HE acknowledge that some of this information is presented within Appendix 6.3.3.2 'Marine Worse Case Scenarios' this should usefully be presented within the main chapter.</p>	<p>Acknowledged.</p> <p>All worst-case scenario information is presented within Section 14.6 of this chapter.</p>
HE	<p>HE understand from the documents we have received that the project is being designed to reduce the need for operational maintenance. Some inferences are made to the need to apply for an additional marine licence for operational maintenance should it be required, but it is unclear which activities are being sought for consent through this application and which will be sought separately. This should be clarified in any forthcoming application for consent.</p>	<p>The MMO has advised that the following maintenance activities do not require a marine licence including:</p> <ul style="list-style-type: none"> • the removal and replacement of defective cable sections; • reburial of cables; • removal of sediment to undertake repairs; and

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		<ul style="list-style-type: none"> the removal / replacement of existing cable protection to access the cable. <p>Placing additional cable protection does require a marine licence however. Accordingly, consent (as part of the DCO application) is being sought for a cable protection installation during both construction and during the first 15 years of operation (and maintenance). This aims to prevent incremental increases of additional cable protection through separate licences over the operational period of the project.</p> <p>Further detail on operations and maintenance activities such as in-service inspection surveys and potential repairs / replacements is provided within Chapter 3 (Description of the Proposed Development) of the Environmental Statement ('ES') Volume 1 (document reference 6.1.3).</p>
HE	Sub-section 14.2.2 'Legislation' of Chapter 14 states that there are no Scheduled Monuments within the Proposed Development or Archaeological Study Area ('ASA'). This must be clarified to distinguish this comment as relating to below Mean High Water Springs ('MHWS') as the map of the ASA in Figure 14.1 (same Chapter) clearly shows that the ASA buffers extends over not	<p>Figure 14.1 has been updated to remove the ASA buffer onshore and this chapter only discusses marine and intertidal elements.</p> <p>Onshore receptors - such as Fort Cumberland - are discussed within Chapter</p>

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	only Fort Cumberland (a scheduled monument) but also over a significant proportion of Portsmouth, Southsea and Langstone Harbour where further designations are present.	21 (Heritage and Archaeology) of the ES Volume 1 (document reference 6.1.21).
HE	Within paragraph 14.2.3.4 of Chapter 14 reference is made to the UK Marine Policy Statement ('MPS') (2011), as per our previously advice, but considering that this is the primary national planning policy for the marine environment it is unclear why it is given only two sentences of explanation, as opposed to the several paragraphs reserved for the National Planning Policy Framework ('NPPF'). Further detail on the role and relevance of the MPS should be included. Similarly, further detail on which policies within the South Inshore and South Offshore Marine Plans are of relevance should also be included.	Greater consideration of the South Marine Plan Policies is included within this chapter in Section 14.2.3 and within the Planning Statement (document reference 5.4) that accompanies the Application. However, please note that for the Proposed Development the primary national planning policy in National Policy Statement ('NPS') EN-1.
HE	HE acknowledge from Appendix 14.2 that geophysical and geotechnical data, consisting of sub-bottom profiler, multibeam bathymetry echo sounder, side scan sonar, magnetometry data, vibrocores and Cone Penetration Tests (CPTs), was collected by MMT in November 2017 to March 2018. The geophysical datasets were assessed to be of good quality, with the exception of the magnetometer which was of average quality, though all datasets were still acceptable for archaeological assessment. HE note from Appendix 14.2 that the surveys were run at 60m line spacing for the offshore section of the MCC (greater than 10m Lowest Astronomical Tide ('LAT')), and that below 10m LAT (inshore section) the line spacing was 25m. However, it is not clear whether this methodology was successful in achieving 100% or greater coverage of the seabed from the text.	The 100% terminology is not fully applicable for magnetometry data as the magnetometer is taken in lines across the assessment area rather than a wide area scan as with the side scan sonar. However, we are able to confirm that the data provides an effective assessment of the area.

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HE	<p>Furthermore, HE acknowledge from Section 14.10 ‘Assessments and surveys still to be undertaken’ of Chapter 14 that prior to installation further ground conditions surveys are to be conducted. These surveys should also be utilised for a further archaeological assessment, in order to refine mitigation measures based on the most up-to-date and/or highest resolution data. This should be undertaken by a qualified and experienced archaeologist to a method statement approved by the licence regulator and their archaeological curator.</p>	<p>Methodologies and mitigation measures have been detailed in Section 9 of the Outline WSI submitted as Appendix 14.3 and the final WSI will be agreed and implemented post consent as part of dML conditions.</p>
HE	<p>HE note from the archaeological assessment that localised palaeochannels and palaeovalleys were identified within the sub-bottom profiler data, which may contain in situ remains. Additionally, HE understand that there are no wrecks with statutory protection within the ASA. The assessment identified a total of 387 anomalies, of which four are considered A1 anomalies with two of these relating to known United Kingdom Hydrographic Office (‘UKHO’) wreck records. The two further receptors identified as A1 are described as a large debris field with a large magnetic anomaly, and a large magnetic anomaly with no surface expression.</p>	<p>Acknowledged.</p>
HE	<p>HE further note that the remaining 383 anomalies identified are A2, there is a total of 104 Recorded Losses (A3), mostly dating from the post-medieval period onwards, and that there are no known aircraft crash sites within the ASA, but there are 21 Recorded Losses from the National Record for the Historic Environment (‘NRHE’) in the ASA, mostly relating to World War II (‘WWII’) losses. HE understand that no new archaeological</p>	<p>Acknowledged.</p>

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	features or objects were identified within the intertidal walkover survey, however, there are two records from the NRHE and Historic Environment Record ('HER') for prehistoric findspots that no longer exist at the locations provided.	
HE	However, the information provided in regards to the Recorded Losses in paragraph 14.9.1.4 of Chapter 14 does not appear to tally with that given in the baseline resources section (14.5 'Baseline Environment'). This must be amended or clarified.	These numbers have been checked and verified and are considered correct. The 125 Recorded Losses comprises 104 maritime Recorded Losses and 21 aviation Recorded Losses.
HE	HE note that paragraph 14.4.5.5 of Chapter 14 describes the criteria for the assessment of archaeological value of marine assets shown in Table 14.2 as a five point scale, but the table itself only includes 4 points. This should be clarified or amended.	The wording in the preceding paragraph to Table 14.2 has been amended.
HE	Paragraph 14.6.2.9 of Chapter 14 references that without mitigation impacts on known potential seabed prehistory receptors could result in significant negative effects. However, with mitigation through further investigation this will become a significant major positive effect through its contribution to the knowledge base of seabed prehistory assets. Whilst HE acknowledge this, we wish to caveat this statement with the fact that the positive effect will only be secured through the delivery of a strategic programme of archaeological investigation conducted by a qualified and experience archaeologist, with the result disseminated into the public domain. As such, HE would wish to see this concept further detailed within the ES and Outline WSI submitted as part of the DCO application.	An Outline WSI has been submitted in Appendix 14.3 and Section 9 provides the scheme of archaeological investigations proposed.

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HE	HE note that mitigation measures are proposed in Section 14.7 'Proposed Mitigation', which includes AEZs for the 4 A1 anomalies, each of 100m radiuses around the identified extent of the seabed feature. Additionally, paragraph 14.7.1.2 of Chapter 14 references monitoring of AEZs to ensure that no disturbances during installation. HE are greatly encouraged to see this provision included, and request further explanation with the EIA for this measure.	The monitoring of AEZs is further discussed Section 9 of the Outline WSI in Appendix 14.3.
HE	HE understand that for A2 anomalies AEZs are not typically used, but the project tries to microsite them. However, the statement regarding 'the application of appropriate mitigation' of A2 anomalies should micrositing not be possible, should be more explicitly explained in reference to the mitigation strategies set out in 14.7 of Chapter 14.	Further consideration of A2 anomalies has been provided within this chapter and any proposed mitigation has been described in Section 14.8 of this chapter and Sections 7 and 9 the Outline WSI in Appendix 14.3.
HE	HE do not approve of the impact assessment provided in Table 14.7 'Direct and indirect impacts summary' of Chapter 14 for the use of anchors during construction, operation and decommissioning. Mitigation measures should include the use of AEZs and micrositing so that anchor positions avoid known archaeological assets, and consideration of the use of a PAD in case of a 'strike'.	Table 14.7 has been updated to reflect the proposed mitigation measures.
HE	HE note that no historic seascape characterisation assessment has been conducted within Chapter 14 'Marine Archaeology', and that Appendix 5.2 'Scoping Opinion' specifies that the Scoping Opinion from PINS specified that it was acceptable for seascapes assessments to be scoped out of the Environmental Impact Assessment.	Acknowledged. No impacts on seascapes (or their setting) has been assessed as stated however, an update to the known assets of the Proposed Development that form the Historic Seascape Character are assessed in the relevant baseline sections in

Consultee	Comment Received	How this has been addressed by the Applicant
		Appendix.14.1 and further discussed in Section 7 of Appendix 14.1.