



The Planning Inspectorate
Yr Arolygiaeth Gynllunio

SCOPING OPINION:

Proposed Mersey Tidal Power Project

Case Reference: EN0110006

Adopted by the Planning Inspectorate (on behalf of the Secretary of State)
pursuant to Regulation 10 of The Infrastructure Planning (Environmental
Impact Assessment) Regulations 2017

29 October 2024

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APPENDIX 1: CONSULTATION BODIES FORMALLY CONSULTED

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1. INTRODUCTION

- 1.0.1 On 18 September 2024, the Planning Inspectorate (the Inspectorate) received an application for a Scoping Opinion from Mersey Tidal Power Project (the Applicant) under Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) for the proposed Mersey Tidal Power Project (the Proposed Development). The Applicant notified the Secretary of State (SoS) under Regulation 8(1)(b) of those regulations that they propose to provide an Environmental Statement (ES) in respect of the Proposed Development and by virtue of Regulation 6(2)(a), the Proposed Development is 'EIA development'.
- 1.0.2 The Applicant provided the necessary information to inform a request under EIA Regulation 10(3) in the form of a Scoping Report, available from:
[Documents | Mersey Tidal Power Project](#)
- 1.0.3 This document is the Scoping Opinion (the Opinion) adopted by the Inspectorate on behalf of the SoS. This Opinion is made on the basis of the information provided in the Scoping Report, reflecting the Proposed Development as currently described by the Applicant. This Opinion should be read in conjunction with the Applicant's Scoping Report.
- 1.0.4 The Inspectorate has set out in the following sections of this Opinion where it has / has not agreed to scope out certain aspects / matters on the basis of the information provided as part of the Scoping Report. The Inspectorate is content that the receipt of this Scoping Opinion should not prevent the Applicant from subsequently agreeing with the relevant consultation bodies to scope such aspects / matters out of the ES, where further evidence has been provided to justify this approach. However, in order to demonstrate that the aspects / matters have been appropriately addressed, the ES should explain the reasoning for scoping them out and justify the approach taken.
- 1.0.5 Before adopting this Opinion, the Inspectorate has consulted the 'consultation bodies' listed in Appendix 1 in accordance with EIA Regulation 10(6). A list of those consultation bodies who replied within the statutory timeframe (along with copies of their comments) is provided in Appendix 2. These comments have been taken into account in the preparation of this Opinion.
- 1.0.6 The Inspectorate has published a series of advice pages, including [Advice Note 7: Environmental Impact Assessment: Preliminary Environmental Information, Screening and Scoping \(AN7\)](#). AN7 and its annexes provide guidance on EIA processes during the pre-application stages and advice to support applicants in the preparation of their ES.
- 1.0.7 Applicants should have particular regard to the standing advice in AN7, alongside other advice notes on the Planning Act 2008 (PA2008) process, available from:

<https://www.gov.uk/government/collections/national-infrastructure-planning-advice-notes>

- 1.0.8 This Opinion should not be construed as implying that the Inspectorate agrees with the information or comments provided by the Applicant in their request for an opinion from the Inspectorate. In particular, comments from the Inspectorate in this Opinion are without prejudice to any later decisions taken (e.g. on formal submission of the application) that any development identified by the Applicant is necessarily to be treated as part of a Nationally Significant Infrastructure Project (NSIP) or Associated Development or development that does not require development consent.

2. OVERARCHING COMMENTS

2.0 Description of the Proposed Development

(Scoping Report Section 2)

ID	Ref	Description	Inspectorate's comments
201	Paragraph 2.4.19	Fish passage and barrage design	In addition to vessel navigation through the tidal barrage, the ES should describe how the design of the barrage and turbines accommodate the requirements of the Eels (England and Wales) Regulations 2009 and Salmon and Freshwater Fisheries Act 1975. This should be supported by appropriate fish strike rate modelling where the route through the tidal barrage is to be through 'fish acceptable' turbines.
202	Figure 2.1 Paragraph 2.5.14	Development areas and final Proposed Development	<p>The Scoping Report defines a set of 'development areas' as the design is at an early stage with the locations of components not yet confirmed. There is potential identified for additional 'other associated development' that could be required during construction but is not yet defined and the location of the tidal barrage is not confirmed, but would also include a marine working area that could encompass an area 1km upstream and downstream of the final barrage location during the construction phase.</p> <p>The Inspectorate considers therefore that the boundary for the Proposed Development could change by the time of the preparation of the ES and therefore the amount of sensitive environmental receptors could change.</p> <p>The ES should therefore carefully set out how the design has evolved in response to environmental constraints and in response to consultation feedback from relevant consultation bodies. This should include demonstration of how a mitigation hierarchy approach has been followed in the development of the design.</p> <p>Where changes have been made from the scoping boundary to the draft Development Consent Order (dDCO) boundary, such as reduction or increase in extent, the reasons for such changes should be described in the ES. This could be following further survey work, consultation, or refinement of the design. Where changes are made, each aspect chapter</p>

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ID	Ref	Description	Inspectorate's comments
			<p>of the ES should explain the effect of such changes on the approach to assessment, including where this results in additional matters needing to be scoped into the ES.</p> <p>It should be noted that if the Proposed Development materially changes prior to submission of the DCO application, the Applicant may wish to consider requesting a new scoping opinion.</p> <p>Please also refer to ID 2.0.16 and 2.1.1 of this Scoping Opinion for the Inspectorate's comments on parameters and the design envelope approach.</p>
203	2.5.31	Construction workforce	<p>The Scoping Report anticipates a workforce of around 5,000 workers would be required during the construction phase. The ES should set out the duration, activities and any peaks of workers required in relation to the construction programme over the likely 7 to 10 year construction period and demonstrate how this is accounted for in the assessment of effects.</p>
204	Paragraph 2.5.16	Use of marine logistics	<p>The ES should set out the anticipated split between the use of road and marine transport logistics for each phase of the Proposed Development. This should include demonstration of a worst-case scenario for each mode where uncertainty remains and an explanation of how any scenario is derived.</p>
205	Paragraphs 2.5.21 to 2.5.22, 2.7.16 and 2.10.6	Maintenance dredging and disposal	<p>The ES should confirm the location(s) at which dredging is predicted to occur during all phases of the Proposed Development. Use of a figure would aid understanding. It should confirm the existing disposal facilities at which the dredged material would be disposed of and if the facilities have capacity to accommodate the material. If insufficient capacity exists, the ES should explain how the dredged material would be disposed of and confirm if a project specific site is required, and the proposed location(s). If re-use of dredged material as part of an enhancement project is included as an option within the dDCO, the ES should set out the details of this proposal and assess any likely significant effects arising from the contribution of the Proposed Development to it. The ES should also explain the proposed process for handling contaminated sediment.</p>

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ID	Ref	Description	Inspectorate's comments
206	Section 2.6	Commissioning of the tidal barrage	The ES should include a description of the activities associated with commissioning, expected duration and any likely impact pathways arising where these differ from those identified for the construction and operational phases of the Proposed Development. An assessment should be provided where significant effects are likely to occur.
207	Paragraph 2.7.18	Water supply – all phases	The ES should describe the water requirements for all phases of the Proposed Development, including the operational cooling system for the turbines. The ES should demonstrate the capacity of the local water and wastewater network is sufficient for the needs of the Proposed Development, or identify alternative sources of water and how they would be achieved. This should be assessed in the ES, where significant effects could occur.
208	Paragraph 2.7.19	Drainage from barrage structure	The ES should describe the drainage design and any relevant pollution control measures from rainfall runoff associated with the barrage.
209	Section 2.8	Major maintenance	The Inspectorate notes that major maintenance of components forming the tidal barrage are likely to be required during the operation of the Proposed Development. This might involve effects similar to those expected during construction. The ES should describe the activities involved with major maintenance; where detail is not known, maximum parameters should be provided. The ES should include an assessment of any likely significant effects that could occur from major maintenance activities.
2010	Section 2.8	Decommissioning	The Scoping Report states that the lifespan for the Proposed Development would be 120 years and be subject to a decommissioning plan at the end of this period. The Inspectorate notes that individual components of the Proposed Development, listed in Table 2-6, have a much shorter design life and the major maintenance activities would occur therefore at shorter time intervals of between 12 and 20 years. The ES should explain what activities are assumed to be decommissioning at the end of the 120-year lifespan of the development and whether there are any interim decommissioning activities.

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ID	Ref	Description	Inspectorate's comments
			<p>This should include clarification of whether any of the 'major maintenance' activities would in effect involve decommissioning and replacing whole elements of the Proposed Development.</p> <p>The ES should therefore explain what activities are involved in decommissioning in order to inform the assessment of effects. The ES should also demonstrate how activities would be planned and achieved for each element as it reaches the end of its design life. Where relevant, an outline of the plans required for decommissioning or major maintenance activities should be provided to inform the ES and secured in the DCO.</p>
20.11	Section 2.8	Decommissioning	<p>The Scoping Report project description and aspect chapters are sometimes inconsistent in the description of activities that would occur during the decommissioning phase. With reference to IDs 2.0.9 and 2.0.10 of this Scoping Opinion, the ES should clarify whether the assessment assumes the removal or retention of the Proposed Development during the decommissioning phase and the activities that would be involved.</p>
20.12	Section 2.9	Grid connection	<p>The Scoping Report outlines that a grid connection point has not yet been confirmed but is anticipated that this would be confirmed at the Preliminary Environmental Impact Report stage. The Applicant should make every effort to confirm the grid connection route and method (such as through overhead or underground lines and whether subsea elements are required) prior to any DCO application. Where optionality remains, the ES should include an assessment of each retained option and identify mitigation where significant adverse effects are concluded.</p>
20.13	Section 2.10	Port and marine facilities	<p>The Scoping Report does not confirm the port location(s) or facilities that would be required. The ES should make effort to identify the location of the port(s) and marine facilities, where possible. In the event that these have not been confirmed, the ES should make effort to establish worst-case scenario parameters in relation to port and marine facility location(s) to apply consistently across the ES.</p> <p>The Inspectorate notes that various aspect chapters state that effects from use of port and marine facilities are proposed to be scoped out of the ES. At this stage, the Inspectorate does not have sufficient detail about the location of the port and marine facilities to be used</p>

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ID	Ref	Description	Inspectorate's comments
			<p>or the activities that are proposed to take place during all phases of the Proposed Development, including ancillary projects, to exclude the possibility of significant effects. The Inspectorate advises that the ES should include an assessment of effects arising from the use of these facilities or demonstrate the absence of likely significant effects in consultation with relevant consultation bodies.</p>
20.14	Paragraphs 2.11.2 and 2.11.3	Ancillary buildings	<p>The Scoping Report refers to the potential of a visitors' centre and other ancillary buildings to be included within the Proposed Development. The Applicant is advised to include any maximum design parameters for such facilities and include these parameters within the assessments.</p>
20.15	Paragraph 6.10.5	Project design optimisation	<p>The Scoping Report states that there are optimisation measures that could be considered during design evolution to reduce effects on benthic habitats, which could relate to changes in the extent of intertidal and subtidal habitats due to change in tidal regime under different operating scenarios.</p> <p>The Inspectorate considers that effort should be made to narrow the range of operating scenarios sought within the DCO application and assessed in the ES. Where optionality or flexibility remains, the ES should include a description of the potential operating scenarios and assess the likely significant effects arising from each scenario in relevant aspect chapters. Mitigation should be identified where significant adverse effects are concluded.</p>
20.16	n/a	Proposed Development – design development	<p>It is advised that any subsequent refinement of scope should be agreed with relevant consultation bodies in writing, with evidence and a clear justification submitted as part of the ES. The Inspectorate advises the use of a table to set out the key changes in parameters or options of the Proposed Development presented in the Scoping Report to that presented in the ES. It is also advised that a table demonstrating how the matters raised in the Scoping Opinion have been addressed in the ES is provided.</p> <p>The Proposed Development parameters should also be clearly defined in the dDCO and in the accompanying ES.</p>

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ID	Ref	Description	Inspectorate's comments
20.17	n/a	Seabed preparation activities	The ES should confirm if any seabed preparation activities, including levelling, are proposed as part of the Proposed Development. Where such activities are required, these should be described in the ES and an assessment should be undertaken where significant effects are likely to occur.
20.18	n/a	Chemicals	The ES should confirm the type and volume of any chemicals that would be required for operation of the Proposed Development and which could interact with the marine environment; for example cleaning products on turbine blades. Any likely significant effects arising from use of such chemicals should be assessed in the ES.
20.19	n/a	Trenchless techniques	Where trenchless methods of cable laying are proposed, the methods involved and the use of any drilling fluids should be explained and assessed in the ES. Where relevant, an appropriate drilling fluid breakout plan should be provided in the ES.

2.1 EIA Methodology and Scope of Assessment

(Scoping Report Sections 1, 3 and 4)

ID	Ref	Description	Inspectorate's comments
21.1	n/a	Consultation body responses	The Applicant is directed to points raised by the consultation bodies in Appendix 2 of this Scoping Opinion on EIA baseline, methods and impact-pathways. The ES submitted by the Applicant should demonstrate consideration of the points raised by the consultation bodies. It is recommended that a table is provided in the ES summarising the scoping responses from the consultation bodies and how they are, or are not, addressed in the ES.
212	Section 2.2.11 Paragraph 3.5.11	Design envelope approach	The Applicant is directed to the Inspectorate's comments in ID 2.0.2 of this Scoping Opinion in relation to the development areas identified at the time of the scoping request. The Inspectorate notes the Applicant's intention to retain flexibility within the design using a design envelope and parameters approach. The ES should identify the parameters that have been assumed as the worst-case scenario for each aspect scoped into the assessment and ensure that interactions between aspects have been taken into account.
213	Paragraph 3.5.29 and various aspect chapters	Terminology	The Scoping Report describes the general approach to assessment of the land-water interface, noting that marine features are environmental features on the water environment side of mean highwater springs (MHWS) and terrestrial features are on the landward side of mean low water springs (MLWS). In some aspect chapters (e.g. the marine and terrestrial archaeology and cultural heritage chapters), the Scoping Report also uses the teams mean high water level and mean low water level. The Inspectorate is unclear if the Applicant intends these terms to

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ID	Ref	Description	Inspectorate's comments
			<p>have the same meaning or if they relate to something different. This should be clarified in the ES study area description(s).</p>
214	Section 3.7	Alternatives	<p>The Scoping Report states that consideration of reasonable alternatives within the ES would cover the location and configuration of the Proposed Development. The Inspectorate notes that the location of the main elements (e.g. the barrage itself) is not yet identified. Several other options for the Proposed Development are still under consideration where alternative technologies or working methods may be involved and that these could also have very different significant environmental effects. This includes, but is not limited to:</p> <ul style="list-style-type: none"> • selection of a grid connection route and method (overhead / underground); • the need for subsea cabling; • choice of worker travel and accommodation during construction; • selection of riverbank / scour protection measures; • dredging locations and methods; and • foundation construction and / or piling methods. <p>The Inspectorate considers therefore that the presentation of alternatives within the ES should also explain the main reasons for the selection of alternatives within the Proposed Development, including a comparison of environmental effects.</p>
215	Paragraph 3.10.4	Non-technical summary	<p>The Scoping Report states that this document will not form part of the ES but will be submitted as part of the application.</p> <p>The Applicant is reminded that an ES non-technical summary is a requirement of Schedule 4 of the Infrastructure Planning (Environmental</p>

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ID	Ref	Description	Inspectorate's comments
			Impact Assessment) Regulations 2017 and as such, should form part of the ES.
21.6	Appendix 3.3	Matters relating to Habitats Regulations Assessment screening and Water Framework Directive Assessment	The Inspectorate notes that these draft screening reports are provided as appendices to the EIA Scoping Report. These reports relate to assessments that sit outside the EIA process and the Inspectorate does not comment on these reports as part of this Scoping Opinion.
21.7	Appendix 4.2	Transboundary effects	<p>The Inspectorate notes that the Applicant has supplied a transboundary screening matrix (Scoping Report Appendix 4.2) and proposes in several aspect chapters to scope out effects on European Economic Area (EEA) States as a result of the Proposed Development. The Inspectorate has an ongoing duty in relation to consideration of transboundary effects and will undertake a separate transboundary screening exercise on behalf of the SoS under Regulation 32 of the EIA Regulations following adoption of the Scoping Opinion.</p> <p>As that exercise has yet to be undertaken, the Inspectorate is not in a position to agree to scope out all proposed transboundary effects at this stage.</p> <p>The Inspectorate recommends that where Regulation 32 applies, the ES should identify whether the Proposed Development has the potential for significant transboundary effects and if so, what these are, and which EEA States would be affected.</p>
21.8	Paragraph 5.8.1	Assumptions	The Inspectorate advises that assumptions identified in the Scoping Report and carried through to the assessment should be verified in the ES. For example, paragraph 5.8.1 of the Scoping Report states that the turbines would be in the deepest part of the channel but based on the description in Section 2, it appears that flexibility as to the tidal barrage location is sought.

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ID	Ref	Description	Inspectorate's comments
21.9	n/a	Plates and figures	The Inspectorate notes that some Plates embedded within the text of the Scoping Report are very detailed and difficult to read. Figure 13.5 also includes similar shading that makes it difficult to differentiate between different receptors. Where images or figures are used within the ES, the Applicant is reminded that these should be legible and use appropriate scale and shading.
21.10	n/a	Confidential annexes	Public bodies have a responsibility to avoid releasing environmental information that could bring about harm to sensitive or vulnerable ecological features. Specific survey and assessment data relating to the presence and locations of species such as badgers, rare birds and plants that could be subject to disturbance, damage, persecution, or commercial exploitation resulting from publication of the information, should be provided in the ES as a confidential annex. All other assessment information should be included in an ES chapter, as normal, with a placeholder explaining that a confidential annex has been submitted to the Inspectorate and may be made available subject to request.
21.11	n/a	Competent experts	The ES must be accompanied by a statement from the Applicant outlining the relevant expertise or qualifications of experts used in the preparation of the ES, as required by Regulation 14 of the EIA Regulations 2017.
21.12	n/a	Timing of baseline surveys and reporting	The Applicant should make every effort to ensure baseline data have been collected and reported to inform the baseline and subsequent assessment within the ES. Where possible, the results gathered should be shared with relevant consultation bodies during the preparation of the ES.
21.13	n/a	Determining significance	In various aspect chapters it is stated that professional judgment would be used to determine if moderate level effects are significant. The

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ID	Ref	Description	Inspectorate's comments
			Inspectorate advises that the ES should clearly set out the reasoning used in all instances where professional judgment is applied in this manner. A precautionary and worst-case approach should be taken to concluding significance where effects are considered to be at more than one level (such as moderate / major).
21.14	n/a	Structure of the ES and cross referencing	The Inspectorate notes that there are several separate aspect chapters with potential for considerable overlap in the assessment of effects – notably in relation to the interaction (and transition) between terrestrial and marine ecological environments and designated sites. The structure of the ES should ensure sufficient cross reference such that it is possible to understand effects across different sections of the ES, particularly where sites and features are assessed in several different chapters.

3. ENVIRONMENTAL ASPECT COMMENTS

3.0 Emissions of heat, light and radiation

(Scoping Report Section 3)

ID	Ref	Applicant's proposed aspect to scope out	Inspectorate's comments
301	Table 3-5 and Section 3.9	Heat, light and radiation	<p>The Scoping Report seeks to scope out emissions of heat, light, and radiation on the basis that no significant sources of these emissions have been identified.</p> <p>The Inspectorate agrees that the Proposed Development is unlikely to be a source of significant heat or radiation and that these matters can therefore be scoped out of the assessment.</p> <p>The Inspectorate notes however that emissions of light are considered as part of the scope of relevant ecology chapters and within Chapter 27: Seascape, Landscape and Visual. A lighting strategy is also proposed within the Commitments Register. The Inspectorate is content therefore that emissions of light are considered as part of the assessment. The ES should however include a draft of the proposed Lighting Strategy and ensure appropriate cross referencing with the relevant aspect chapter assessments.</p>

3.1 Coastal Processes

(Scoping Report Section 5)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
31.1	Table 5-17 and paragraph 5.10.13	Accidental spillages of fuel, cement or other harmful materials (all phases)	<p>The Scoping Report identifies a risk of pollution being accidentally released from sources including vessels and equipment but seeks to scope this matter out on the basis that the magnitude of a spill would be limited by the chemical or oil inventory, and due to implementation of control measures and compliance with industry good practice and guidelines. Scoping Report Appendix 3.1 indicates that these would be captured through management plans proposed to be secured through DCO requirements, including a construction environmental management plan (CEMP), marine pollution contingency plan (MPCP) and project environmental management plan (PEMP).</p> <p>Based on the information provided on the proposed mitigation and control measures, the Inspectorate agrees that significant effects from accidental release of pollution are unlikely. The Inspectorate agrees that this matter can be scoped out; the ES should identify and ensure that mitigation for all potential pollution incidents are accounted for in the management plans. The ES should explain where appropriate management and control measures to reduce/ avoid potential pollution events are secured through the dDCO or other legal mechanism, for all phases of the Proposed Development.</p>
31.2	Paragraph 5.10.11	Marine disposal of dredged sediment (all phases)	<p>The Scoping Report seeks to scope this matter out as sediment of an appropriate quality would be disposed of in accordance with necessary permissions at existing licensed offshore disposal sites or used in an ecological enhancement project. It is stated that contaminated sediment would be treated in accordance with regulatory requirements.</p> <p>In the absence of information referred to at ID 2.0.5 of this Scoping Opinion, the Inspectorate is not able to agree to scope this matter out of the ES. An assessment of effects arising from use of existing offshore disposal sites, and project specific disposal sites if required, should be scoped into the ES. In addition, the ES should assess effects</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			arising from any maintenance dredge or disposal required to compensate for the altered suspended sediment budget, e.g. if disposed quantities represent a significant relocation of sediment within or wholly removed from the baseline Mersey Estuary sediment system.
313	Paragraph 5.10.12	General maintenance of the tidal barrage, including erosion control structures	<p>The Scoping Report seeks to scope this matter out on the basis that effects are likely to be negligible. No further rationale is presented.</p> <p>The Inspectorate notes that several pathways from activity associated with the presence and operation of the proposed tidal barrage are scoped in (for example in Table 5-17 of the Scoping Report), such as blockage. It is unclear what additional activities the Applicant envisages would fall under general maintenance, but the Inspectorate considers that there could be effects from various impact pathways such as maintenance of rock armour and removal of biofouling. The Inspectorate advises that the ES should include a description of required maintenance activities and any potential impact pathways arising. It should include an assessment or demonstrate the absence of likely significant effects, with evidence of agreement from relevant consultation bodies.</p>
314	Paragraph 5.12.1	Transboundary effects	The Inspectorate is not able to agree to scope this matter out until it has undertaken its own transboundary screening. See the Inspectorate's comments at ID 2.1.7 of this Opinion.

ID	Ref	Description	Inspectorate's comments
315	Paragraph 5.3.3	Study area	The Inspectorate advises that the final study area should be based on the coastal processes, i.e. the extent of connected hydrodynamic and sediment transport pathways subject to the influence of the Proposed Development. The tidal ellipses used to inform the study area should be presented on a figure in the ES. The ES should demonstrate how the potential for tidal ellipses to change during the operational life of the Proposed

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ID	Ref	Description	Inspectorate's comments
			Development has been considered in selecting the final study area. Effort should be made to agree the study area with relevant consultation bodies.
31.6	Tables 5-3 and 5-5	Assessment criteria	The Applicant's attention is drawn to comments of the Environment Agency (EA) (Appendix 2 of this Scoping Opinion) regarding assignment of receptor sensitivity and impact magnitude. The Inspectorate advises that the consideration should be given to amending the definitions as recommended by the EA. Where the ES retains the definitions set out in the Scoping Report, it should provide a justification for the basis on which this decision was made by reference to relevant guidance and with evidence of agreement from relevant consultation bodies.
31.7	Table 5-6	Data sources	An updated version of the OSPAR Quality Status Report was published in 2023. The ES should be informed by the most recent version.
31.8	Section 5.7	Future baseline	<p>The Scoping Report states that future bathymetric and coastal baseline change could affect the tidal barrage, but this is not expected to change dramatically and it is difficult to predict reliably over the operational lifetime of the Proposed Development. Given the proposed design life of 120 years, the Inspectorate advises that evidence to support this assertion should be included in the ES (e.g. by evaluating historic data). If such evaluation indicates potential for greater change, effort should be made to identify predicted change and this data should inform the assessment.</p> <p>Effort should also be made to agree with relevant consultation bodies the scope of monitoring required to validate climate change modelling predictions used to inform the assessment of effects.</p> <p>The Applicant's attention is drawn to the comments of the EA, Marine Management Organisation (MMO) and Natural England (Appendix 2 of this Scoping Opinion).</p>
31.9	Paragraph 5.8.1	Erosion control, rock armour and scour protection	The Inspectorate notes that Appendix 3.1 includes OM4, a commitment to a scour protection management plan proposed to be secured through a DCO requirement. No reference is made to erosion control or rock armour.

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ID	Ref	Description	Inspectorate's comments
			<p>The Inspectorate advises that the ES should include information about the proposed location and type of scour protection. It should also describe any erosion control and rock armour proposed. Any mitigation measures which would be relied on to avoid significant environmental effects must be described and demonstrably secured.</p>
3.1.10	Paragraphs 5.10.5 to 5.10.8	Hydrodynamic modelling	<p>The Inspectorate advises that effort should be made to agree the scope of the proposed hydrodynamic modelling with relevant consultation bodies, including Natural England. The modelling should be sufficient to identify and assess potential change and it should consider all phases of the Proposed Development.</p> <p>The Inspectorate advises that effort should also be made to agree the scope of any separate eutrophication or nutrient modelling with relevant consultation bodies, including the EA, where the hydrodynamic modelling is unlikely to provide sufficient data to assess potential for change in nutrient concentration in the Mersey Estuary. This should include consideration of effects to water quality associated with fish entrainment.</p> <p>The reason for use of a particular model and any limitations associated with should be confirmed in the ES. Modelling outputs should form part of the ES.</p> <p>The Applicant's attention is drawn to the comments of the EA and Natural England (Appendix 2 of this Scoping Opinion) in this regard.</p>
3.1.11	Table 5-17	Sediment sampling and water quality data	<p>The Applicant should seek to agree the scope of sampling and testing for contaminants and/ or water quality with relevant consultation bodies. The ES should include clear justification for the chosen analysis, with reference to any agreements reached.</p>
3.1.12	Table 5-17	Unexploded ordnance (UXO)	<p>The Scoping Report does not refer to the potential effects of UXO, including accidental or planned detonation, in relation to coastal processes. The Inspectorate considers that the ES should assess the likely significant effects which could occur in this regard.</p>
3.1.13	Table 5-17	Jack-up rigs and subsea cables	<p>Paragraphs 2.5.16 and 6.1.1 (amongst others) of the Scoping Report refer to the use of jack-up rigs during construction and potential for subsea cabling; however, Table 5-17 does not identify these components as a potential source of impacts to coastal processes</p>

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ID	Ref	Description	Inspectorate's comments
			such as disturbance of seabed and change in metocean conditions. The ES should assess effects due to the presence of infrastructure components, engineering and installation equipment, where likely significant effects could occur.
3.1.14	Table 5-17	Sources of salinity and sediment change	In addition to the sources identified in Table 5-17, the assessment should also consider potential change from the proposed cooling water system and discharge of surface water draining from proposed access roads.
3.1.15	Tables 5-13 and 5-17	Receptors	Table 5-13 of the Scoping Report identifies international and nationally designated sites within the study area that could be affected by the Proposed Development but these are not specifically listed as receptors scoped in to the coastal processes assessment in Table 5-17. For the avoidance of doubt, the Inspectorate understands that each of the sites listed in Table 5-13 will be considered in the assessment, including for the additional impact pathways identified at ID 3.1.19 of this Scoping Opinion.
3.1.16	Section 5.11	Cumulative effects	The Applicant's attention is drawn to the comments of the MMO (Appendix 2 of this Scoping Opinion). Effort should be made to agree the method of cumulative effects assessment for coastal processes with relevant consultation bodies, including the need for geomorphic assessment to support the work.
3.1.17	n/a	Receptors - Liverpool Dock	The Applicant's attention is drawn to the comments of the Canal and River Trust (Appendix 2 of this Scoping Opinion). The Inspectorate considers that changes in the Mersey Estuary could affect Liverpool Dock, including its marine dock ecosystem. The ES should consider Liverpool Dock as a receptor for effects from impact pathways scoped into the assessment, and for potential for relevant effects to undermine the river wall. It should describe the baseline condition of Liverpool Dock and identify any mitigation required to address significant adverse effects to it.
3.1.18	n/a	Construction and operation monitoring plan	The Inspectorate notes the advice of Natural England that the Mersey Estuary is a dynamic and complex system, which means that predicting the impact of the Proposed Development will come with uncertainties. The Inspectorate advises that effort should be made to agree with relevant consultation bodies a construction and operation monitoring

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ID	Ref	Description	Inspectorate's comments
			<p>plan as part of the ES, which would be used to check modelling predictions and provide a basis for adaptive mitigation if required. The Applicant's attention is drawn to the comments of Natural England (Appendix 2 of this Scoping Opinion).</p>
3.1.19	n/a	Impact pathways	<p>The Inspectorate advises that the following impact pathways should also be assessed in the ES:</p> <ul style="list-style-type: none"> • changes to tidal range and regime and its effect on habitats (including loss of habitat) and species; • sediment deposition of disposed or disturbed sediment over habitats; • loss of sediment supply in upper parts of the Mersey Estuary, including from dredging; and • coastal squeeze and sea level rise and implications for the policies of the Great Ormes Head to Scotland Shoreline Management Plan (SMP). <p>The Applicant's attention is drawn to the comments of Natural England (Appendix 2 of this Scoping Opinion), which provides further information.</p>

3.2 Benthic Ecology and Plankton

(Scoping Report Section 6)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
321	Paragraph 6.11.4	Long-term habitat loss (construction)	<p>The Scoping Report seeks to scope this matter out on the basis that the effect would be considered for the operational phase of the Proposed Development, which would represent the worst-case scenario.</p> <p>Noting that it is proposed to scope in temporary habitat loss during construction from the presence of man-made infrastructure such as cofferdams, and provided that this assessment considers the full duration of the temporary habitat loss (including any that may occur during operational maintenance) and that there is a commitment to reinstate the habitat, the Inspectorate agrees that this matter can be scoped out of further assessment.</p>
322	Paragraph 6.11.6	Increased litter into marine environment from an increase in vessels (all phases)	<p>The Scoping Report states that there would be no likely significant effects based on the embedded measures, such as issue of a Vessel Management Plan (VMP) for all project vessel operators, being implemented.</p> <p>The Inspectorate agrees that this matter can be scoped out of further assessment on the basis described in the Scoping Report.</p>
323	Paragraph 6.11.7	Underwater noise and vibration effects to benthic species and plankton (all phases)	<p>The Scoping Report seeks to scope this matter out on the basis that the sensitivity of these receptors is based on their ability to detect particle motion rather than sound pressure, making them less sensitive to some sources of noise. It is also stated that noise-generating activities would be short-term (less than one year).</p> <p>In the absence of information such as evidence demonstrating clear agreement with relevant statutory bodies and noting that the construction phase could last up to 10 years, the Inspectorate is not able to agree to scope this matter from the assessment.</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			Accordingly, the ES should include an assessment, or the information referred to demonstrating agreement with the relevant consultation bodies and the absence of a likely significant effect.
324	Paragraph 6.13.1	Transboundary effects	The Inspectorate is not able to agree to scope this matter out until it has undertaken its own transboundary screening. See the Inspectorate's comments at ID 2.1.7 of this Opinion.

ID	Ref	Description	Inspectorate's comments
325	Table 6-4	Value criteria for benthic ecology and plankton receptors	In addition to the criteria specified, the definition of high and medium value receptors should also consider if features support internationally or nationally designated sites to ensure that such features are given appropriate weighting in the assessment.
326	Table 6-8	Data sources	The Applicant's attention is drawn to the comments of Natural England (Appendix 2 of this Scoping Opinion) regarding additional relevant data sources. The Inspectorate advises that these should be used to inform the assessment.
327	Table 6-13	Baseline survey	<p>Effort should be made to agree the intertidal and subtidal survey scope with relevant consultation bodies. This should include sampling location, duration and method, frequency and approximate timings.</p> <p>The Inspectorate advises that Phase II or National Vegetation Classification (NVC) saltmarsh surveys should include areas that would be directly or indirectly affected by the proposed tidal barrage and other infrastructure where it is proposed to cross coastal habitat in the worst-case scenario, to establish a robust baseline from which to undertake assessment.</p> <p>The Inspectorate notes the EA's advice that benthic infauna are strongly seasonal and can vary in abundance from year to year. The Inspectorate recommends that consideration is</p>

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ID	Ref	Description	Inspectorate's comments
			<p>given to a sampling programme of more than one year. If the sampling programme is carried out over a shorter period, the ES should include a justification for the approach with reference to relevant guidance and agreement with relevant consultation bodies.</p> <p>The Inspectorate notes the EA's advice that surveys characterising benthic assemblages would not provide a suitable baseline for assessment of lighting effects to plankton. The Inspectorate advises that nocturnal sampling is carried out to support the assessment.</p> <p>The Applicant's attention is drawn to the comments of the EA and Natural England (Appendix 2 of this Scoping Opinion) regarding survey effort.</p>
328	Paragraph 6.10.6	Additional measures	<p>The ES should clearly differentiate between essential mitigation and compensation, enhancement or net gain that is proposed as part of the DCO.</p>
329	Table 6-14	Embedded measures	<p>The Scoping Report states that project siting will be considered and documented in the design evolution and alternatives chapter of the Preliminary Environmental Impact Report (PEIR), with a commitment to minimise development footprint in areas of conservation importance where feasible. This is proposed to be captured in OM5; however, the wording of OM5 in Appendix 3.1 does not refer to benthic ecology.</p> <p>The ES should demonstrate how effort has been made to apply this commitment, given the potential for the Proposed Development to affect numerous designated ecological sites and benthic habitats. It should be clear that OM5 applies to benthic receptors.</p>
3210	Table 6-15	Subsea cables	<p>Paragraph 6.1.1 (amongst others) of the Scoping Report refers to the potential for subsea cabling; however, Table 6-15 does not identify this component (or any associated cable protection that might be required) as a potential source of impacts to benthic ecology. If the Proposed Development includes subsea cables, the ES should describe any potential impact pathways associated with this component (for example potential effects from temperature changes or electromagnetic fields (EMF) or indicate where it might be relevant to impact pathways listed in Table 6-15. An assessment should be provided where likely significant effects could occur.</p>

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ID	Ref	Description	Inspectorate's comments
3211	Table 6-15	Receptors – Special Protection Areas (SPAs)	For the avoidance of doubt, the Inspectorate advises that the assessment should consider SPAs within the study area as receptors, where the SPA has benthic and intertidal habitats that support bird features.
3212	Table 6-15	Sediment analysis	The Scoping Report states that sediment would be used as a method of data analysis. The Inspectorate advises that this should include sediment leachate analysis.
3213	n/a	Receptors – marine dock ecosystem (Liverpool Dock)	The Applicant's attention is drawn to the comments of the Canal and River Trust (Appendix 2 of this Scoping Opinion). The marine dock ecosystem should be considered as a potential receptor for effects from changes that could affect water quality, turbidity and salinity during all phases. The ES should describe the baseline condition of the marine dock ecosystem and identify any mitigation required to address significant adverse effects to it.
3214	n/a	Habitat loss	The ES should quantify the predicted temporary and habitat loss for each phase of the Proposed Development, together with the expected duration of each instance of temporary habitat loss.
3215	n/a	Impact pathways	<p>The Inspectorate advises that the following impact pathways should also be assessed in the ES:</p> <ul style="list-style-type: none"> • colonisation of hard structures from placement of artificial structures in the marine environment, including potential for colonisation of Invasive Non-Native Species (INNS); and • habitat loss from long-term water flow pathways. <p>Where relevant, the assessment can include cross-reference to other assessment work within the ES to avoid duplication (such as the assessment of INNS).</p> <p>The Applicant's attention is drawn to the comments of the MMO and Natural England (Appendix 2 of this Scoping Opinion), which provide further information.</p>

3.3 Invasive Non-Native Species

(Scoping Report Section 7)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
331	n/a	n/a	No matters have been proposed to be scoped out of the assessment

ID	Ref	Description	Inspectorate's comments
332	Table 7-3 and Table 7-7	American slipper limpet (<i>Crepidula fornicata</i>) Red ripple broyozoan (<i>Watersipora subatra</i>)	The ES should also consider the physical effects from the potential spread of these species on marine habitats.
333	Table 7-6	Further survey data	The Scoping Report indicates that specific Invasive Non-Native Species (INNS) surveys would not be carried out but incorporated into other surveys. The approach to surveys should be discussed and where possible agreed with relevant consultation bodies.
334	Table 7-6	Pre-construction surveys	The Scoping Report indicates that pre-construction surveys would be carried out to identify INNS along the grid connection route. The Inspectorate considers that appropriate baseline surveys should also be carried out to inform the ES. Where additional pre-construction surveys are proposed, this requirement should be specified in the relevant sections of the outline Construction Environmental Management Plan (CEMP).
335	Table 7-8	Biosecurity plan	The biosecurity plan should also include details of the actions that would be taken if INNS are discovered, including reporting or removal requirements.

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ID	Ref	Description	Inspectorate's comments
336	Table 7-9	Definition of receptors	The Scoping Report states that the effect of INNS on 'all sensitive receptors' is scoped into the assessment. The ES should be clear which sensitive receptors have been considered within the assessment of this effect, with appropriate cross references to other aspect chapters.
337	Paragraphs 7.11.5 to 7.11.10	Comments and recommendations	This section of the Scoping Report contains comments and recommendations on the approach to INNS but it is not clear whether these would be adopted as part of the scope of the assessment. The ES should consider the additional measures as part of the identified plans and mitigation measures for INNS.
338	7.11.2	Introduction and spread of INNS	The source pathway receptor approach proposed should be clear which pathways result from the Proposed Development alone or those that arise cumulatively with other proposed developments.

3.4 Marine Mammals

(Scoping Report Section 8)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
341	Table 8-12 and Paragraph 8.10.3	Change in hydrodynamic regimes (increase in suspended sediment turbidity) – construction and operation	<p>The Scoping Report seeks to scope out effects on cetaceans and pinnipeds from increases in suspended sediment and turbidity, on the basis that these marine mammals are tolerant of turbid water and low visibility conditions and will continue to forage.</p> <p>The Inspectorate agrees that this matter can be scoped out of the assessment for all phases of the Proposed Development.</p>
342	Table 8-12 and Paragraph 8.10.4	Changes in water quality – all phases	<p>The Scoping Report seeks to scope out effects on cetaceans and pinnipeds from changes to water quality on the basis that conditions are likely to be temporary and localised and as marine mammals are mobile and therefore able to move away from areas of river pollution.</p> <p>The Inspectorate considers that this matter can be scoped out of the assessment. However, the ES should set out the measures that will be implemented to minimise or act on river pollution within appropriate control plans such as the outline CEMP, to ensure that any events are temporary and / or localised.</p>

ID	Ref	Description	Inspectorate's comments
343	n/a	n/a	<p>The Applicant is directed to the responses provided by Natural England and Natural Resources Wales (NRW) which includes clarification on additional impact-pathways, baseline survey methods and the assessment methodology approach (including modelling approaches). The ES should demonstrate consideration of these points and how the design and assessment approach has developed through discussion and, where possible, agreement with relevant consultation bodies. Please also refer to ID 2.1.1 of this Scoping</p>

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ID	Ref	Description	Inspectorate's comments
			Opinion which advises that the ES contain a summary of the scoping responses from the consultation bodies and how they are, or are not, addressed in the ES.
344	Section 8.6	Baseline surveys	The ES should demonstrate how the feedback from consultation bodies (Scoping Report Table 8-3 and any subsequent responses received) has been used to devise the final survey approach taken. Every effort should be made to agree the approach to surveys with consultation bodies and where differences occur, the ES should provide reasons and demonstrate that these have been discussed with consultation bodies.
345	Section 8.6	Acoustic surveys	Scoping Report Table 8-3 identifies a recommendation for acoustic surveys, but this is not included within the scope of baseline surveys described in Section 8.6 or Table 8-12. Appropriate acoustic surveys, informed by and where possible agreed with relevant consultation bodies, should be used to inform the baseline in the ES
346	Table 8-10	Designated sites	The ES should include consideration of Sites of Special Scientific Interest (SSSIs) that include seal species as features.
347	Table 12-2	Marine Mammal Mitigation Protocol (MMMP)	The proposed MMMP should include measures to address collision risk and barrier effects.
348	n/a	Underwater noise - dredging	The ES should include an assessment of underwater noise and vibration effects on marine mammals from dredging activities.
349	n/a	UXO	The Scoping Report contains references (such as Table 23-9) to the presence of unexploded ordnance within the scoping boundary for the Proposed Development. The assessment of effects on marine mammals should therefore include consideration of the need for UXO clearance.

3.5 Marine and Intertidal Ornithology

(Scoping Report Section 9)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
351	Paragraph 9.7.2	Nocturnal bird surveys	<p>The Scoping Report seeks to scope out nocturnal bird surveys on the basis that there would be no change daytime compared to night-time foraging activity and that the programme of daytime survey would provide sufficient information on bird activity.</p> <p>The Inspectorate considers that as bird behaviour at night could alter compared to daytime, that appropriate survey or other baseline data should be used to inform the assessment of foraging behaviour at night. A precautionary and worst-case scenario should be adopted, and this matter cannot therefore be scoped out of the assessment at this stage.</p>
352	Paragraph 9.7.4	GPS tagging of waders	<p>The Scoping Report seeks to scope out GPS tagging of waders on the basis that the information it would provide would be minimal and has been balanced against the potential negative impact on the birds of carrying a GPS unit.</p> <p>The Inspectorate agrees that provided sufficient precautionary data and a worst-case scenario are provided within the ES, with reasons and evidence discussed and where possible agreed with relevant consultation bodies including Natural England, that the assessment in ES can be presented without the need for this type of survey. On that basis, this matter can therefore be scoped out of the assessment.</p>
353	Table 9-16	Collision risk – operation	<p>The Scoping Report seeks to scope out above and below water collision with infrastructure on the basis that the risk is negligible for the Proposed Development.</p> <p>The Inspectorate considers that given the lack of details of the potential bird species or numbers that could be at risk and as no embedded mitigation measures are proposed, it is not possible to scope this matter out of the assessment at this stage. The nature, location</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			and stage of design is also that there remains potential for above ground structures such as cranes to be required.
354	Table 9-16	Above water noise - maintenance	<p>The Scoping Report seeks to scope out above water noise during maintenance activities on the basis that the risk is negligible for the Proposed Development.</p> <p>The Inspectorate notes from Scoping Report Chapter 3 that the scale and duration of maintenance activities are not yet fully defined but that it could include several activities with potential to generate above water noise. Given the stage of the Proposed Development and uncertainty about the location of maintenance activities and their proximity to sensitive receptors, the Inspectorate does not agree that this matter can be scoped out of the assessment at this stage.</p>
355	Table 9-16	Abrasion/ disturbance of the substrate on the surface of the seabed – all phases.	<p>The Scoping Report seeks to scope out effects from abrasion of the surface of the seabed due to there being no pathway to effect in any phase and as indirect effects would be captured through the assessment of habitat loss.</p> <p>Given the stage of the Proposed Development and as information on locations of activities that could create these effects, the Inspectorate does not agree that this matter can be scoped out of the assessment at this stage.</p>
356	Table 9-16	Penetration and / or disturbance of the substratum below the surface of the seabed – operation and maintenance	<p>The Scoping Report seeks to scope out effects from disturbance of the surface of the seabed due to there being no pathway to effect to ornithological receptors and as indirect effects would be captured through the assessment of habitat loss.</p> <p>The Inspectorate notes that these effects are scoped into the assessment of effects in Scoping Report chapter 10 (fish and shellfish). The Inspectorate considers there is potential for indirect effects on ornithological receptors and as such, does not agree that this matter can be scoped out of the assessment.</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
35.7	Table 9-16	Release of contaminants – all phases	<p>The Scoping Report seeks to scope out effects from physical change to the seabed due to there being no pathway to effect to ornithological receptors and as indirect effects would be captured through the assessment of habitat loss.</p> <p>The Inspectorate considers that there is potential for sediments to be released and impact intertidal habitat used by bird species. This matter cannot therefore be scoped out of the assessment at this stage.</p>
35.8	Table 9-16	Release of contaminants – all phases	<p>The Scoping Report seeks to scope out effects from physical change to sediments due to there being no pathway to effect to ornithological receptors and as indirect effects would be captured through the assessment of habitat loss.</p> <p>The Inspectorate considers that there is potential for sediments to be released and impact intertidal habitat used by bird species. This matter cannot therefore be scoped out of the assessment at this stage.</p>
35.9	Table 9-16	Smothering and siltation rate changes (heavy)	<p>The Scoping Report seeks to scope out effects from smothering and siltation rate changes (heavy) due to there being no pathway to effect to ornithological receptors and as indirect effects would be captured through the assessment of habitat loss.</p> <p>The Inspectorate agrees that on that basis, this matter can be scoped out of the assessment.</p>
35.10	Table 9-16	Smothering and siltation rate changes (light)	<p>The Scoping Report seeks to scope out effects from smothering and siltation rate changes (light) due to there being no pathway to effect to ornithological receptors and as indirect effects would be captured through the assessment of habitat loss.</p> <p>The Inspectorate agrees that on that basis, this matter can be scoped out of the assessment.</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
35.11	Table 9-16	Wave exposure changes	<p>The Scoping Report seeks to scope out effects from wave exposure changes due to there being no pathway to effect to ornithological receptors and as indirect effects would be captured through the assessment of habitat loss.</p> <p>The Inspectorate agrees that on that basis, this matter can be scoped out of the assessment.</p>
35.12	Table 9-16	Water flow (tidal current) changes, including sediment transport	<p>The Scoping Report seeks to scope out effects from water flow changes due to there being no pathway to effect to ornithological receptors and as indirect effects would be captured through the assessment of habitat loss.</p> <p>The Inspectorate agrees that on that basis, this matter can be scoped out of the assessment.</p>

ID	Ref	Description	Inspectorate's comments
35.13	n/a	n/a	<p>The Applicant is directed to the responses provided by Halton Borough Council, Natural England and Natural Resources Wales (NRW) and others which include clarification on additional impact-pathways, baseline survey methods and the assessment methodology approach. The ES should demonstrate consideration of these points and how the design and assessment approach has developed through discussion and, where possible, agreement with relevant consultation bodies. Please also refer to ID 2.1.1 of this Scoping Opinion which advises that the ES contain a summary of the scoping responses from the consultation bodies and how they are, or are not, addressed in the ES.</p>
35.14	Paragraph 9.3.3	Functionally linked land (FLL)	<p>FLL that is within 2km of the Proposed Development should be covered in the design of further survey work.</p>

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ID	Ref	Description	Inspectorate's comments
35.15	n/a	Impact-pathways	<p>The Inspectorate advises that the following impact pathways should also be assessed in the ES:</p> <ul style="list-style-type: none">• changes to tidal sediment exposure;• disturbance effects from presence of people;• increased disturbance from vessels from marine navigational system change; and• displacement effects during operation.

3.6 Fish and Shellfish

(Scoping Report Section 10)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
361	Paragraph 10.1.1	Effects on fish and shellfish from grid connection	<p>Scoping Report Chapter 10 states that the fish and shellfish assessment does not consider effects from the grid connection. The Inspectorate notes, however, that Scoping Report Table 3-2 identifies potential for effects should subsea cabling be required as part of the grid connection.</p> <p>The Inspectorate does not agree that this matter can therefore be scoped out of the assessment at this stage.</p>
362	Table 10-3	Pelagic fish surveys (Otter trawl)	<p>The Scoping Report seeks to scope out the need for specific pelagic fish surveys due to other proposed multi-method fish surveys (beach seine and beam trawl) being able to catch pelagic fish.</p> <p>The ES should therefore be supported by appropriate otter trawl surveys to ensure that the seasonality of fish species presence is fully captured throughout the year. The ES should also set out the methods used for surveys and where possible, agreement sought on the approach with relevant consultation bodies including the MMO and EA.</p>
363	Table 10-3	Sandeel surveys	<p>The Scoping Report seeks to scope out surveys for sandeel on the basis that the habitats they require are not present within the Mersey Estuary and that existing desk-based data sources will be used within the baseline.</p> <p>The Inspectorate agrees that on this basis the need for specific sandeel surveys can be scoped out of the assessment.</p>
364	Paragraph 10.11.4	Collision risk from increased vessel numbers	<p>The Scoping Report seeks to scope out effects from collision risk with surface dwelling fish (including basking shark) on the basis that vessel movements are already high in the Mersey Estuary and as most species are highly mobile and able to avoid vessels.</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			<p>No details are available of the numbers and types of vessel movements that would occur during each stage of the Proposed Development. In the absence of this information and given the Scoping Report notes that the Applicant seeks to use predominantly marine based logistics (Scoping Report paragraph 2.5.16), the Inspectorate does not agree that this matter can be scoped out of the assessment at this stage.</p>
365	Paragraph 10.11.6	Underwater noise – vessel movements	<p>The Scoping Report seeks to scope out effects on fish from underwater noise generated by vessel traffic, on the basis that the increase in vessel traffic is unlikely to significantly increase baseline noise levels and as fish will move away from noise.</p> <p>No details are available of the numbers and types of vessel movements that would occur during each stage of the Proposed Development. The Scoping Report refers to already high levels of baseline noise from vessel traffic and that underwater noise from the Proposed Development would originate from several sources. The Inspectorate considers that there is potential for significant effects from underwater noise from several different sources associated with the Proposed Development as well as from cumulative effects.</p> <p>The Inspectorate does not therefore agree to scope this matter out at this stage.</p>
366	Paragraph 10.11.7	Marine turtles	<p>The Scoping Report seeks to scope out effects on marine turtles given the infrequent and seasonal nature of their occurrence within the study area.</p> <p>The Inspectorate notes in paragraph 10.8.2 that the future baseline for the assessment has considered the potential for climate change to alter fish and shellfish distribution and abundance. The conclusions do not refer to marine turtle, however, but the Inspectorate considers that it is reasonable to assume that future changes in climate could also have potential to alter the distribution of marine turtle.</p> <p>The Inspectorate considers however that provided this future pattern is clarified in the ES such that it is possible to demonstrate that significant effects on marine turtle are unlikely to occur, that this matter can be scoped out of further assessment.</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
36.7	n/a	Shellfish surveys	<p>The Scoping Report seeks to scope out specific shellfish surveys and use a logbook-based scheme with fishermen in order to inform the baseline.</p> <p>The Inspectorate considers that this approach may not provide sufficient information on the abundance and type of shellfish to inform the baseline as it may be limited to presence / absence and focus only on commercial species.</p> <p>The ES should therefore be supported by appropriate shellfish surveys, with the approach and extent of surveys agreed with relevant consultation bodies.</p>
36.8	Section 10.13	Transboundary effects	The Inspectorate's comments in relation to transboundary effects are provided in ID 2.1.7 of this Scoping Opinion.

ID	Ref	Description	Inspectorate's comments
36.9	n/a	n/a	<p>The Applicant is directed to the responses provided by Natural England, the Marine Management Organisation and Environment Agency which include details on additional impact-pathways, baseline survey methods and the assessment methodology approach. The ES should demonstrate consideration of these points and how the design and assessment approach has developed through discussion and, where possible, agreement with relevant consultation bodies. Please also refer to ID 2.1.1 of this Scoping Opinion which advises that the ES contain a summary of the scoping responses from the consultation bodies and how they are, or are not, addressed in the ES.</p>
36.10	Table 10-1	Increased levels of suspended sediments	The assessment of effects on fish from changes to sediments should also consider the potential for changes to water quality as a result of dredging,
36.11	Table 10-8	Sources of data	The Inspectorate notes that most of the data sources cited in this table are over two years old and some more than 10 years old. The ES should either provide an update to each dataset or provide an explanation of the relevance where older data sources are relied

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ID	Ref	Description	Inspectorate's comments
			upon in the assessment. Evidence of agreement with consultation bodies on the age and type of datasets that have been used in the assessment should also be provided.
36.12	Table 10-9	Migration patterns - Atlantic salmon and trout	<p>The ES should clarify the sensitive seasons for both migrating Atlantic salmon and sea trout and an assessment of effects on both species should be included within the ES. The window for upstream salmon migration stated in the Scoping Report should be widened in the ES to encompass the period February to December.</p> <p>For sea trout, the ES should consider an emigration period from March to May, for smolt and adult sea trout upstream migration from March to September.</p>
36.13	Table 10-14	Barrier to migration effects	Construction and decommissioning activities have potential to create barrier effects as the Proposed Development is built and / or decommissioned. Where this effect is scoped into the assessment for the operation and maintenance phases, the effects during construction and decommissioning should also be considered.
36.14	Paragraph 10.16.18	Description of receptors	The species of clams considered within the assessment should be defined in the ES using the scientific names for all species.
36.15	n/a	Receptors	Given the proximity of the Dee Estuary to the River Mersey, shad species, which are identified in paragraph 10.6.16 as being present in the River Dee, should be scoped into the assessment.
36.16	n/a	Effects from impoundment	The Inspectorate considers that effects from increased predation risk on fish, including diadromous species undertaking migration, should be scoped into the assessment. Predation risk should consider both risks from native species and INNS (scoped into the assessment in Table 10-14).
36.17	n/a	Effects of temperature change and solar radiation	The assessment on fish should consider the potential for effects from changes to water temperature changes associated with increased solar radiation of the impounded water.

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ID	Ref	Description	Inspectorate's comments
36.18	n/a	Effects of noise and vibration	The ES should include an assessment of noise and vibration from the operational turbines and from activities to remove infrastructure during the decommissioning stage. (Please refer to IDs 2.0.9 to 2.0.11 of this Scoping Opinion for the Inspectorate's comments in relation to decommissioning activities.)
36.19	n/a	Cooling system	The ES should include an assessment of the effects of the cooling system on relevant fish and shellfish receptors. The approach to the assessment should be discussed and where possible agreed with relevant consultation bodies.

3.7 Commercial Fisheries

(Scoping Report Section 11)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
37.1	Paragraph 11.11.4	Gear snagging	<p>The Scoping Report seeks to scope out effects from gear snagging on physical presence of the new infrastructure. This is on the basis that the main gear types in the Mersey will be static and are unlikely to snag on new infrastructure.</p> <p>The Inspectorate agrees that this matter can be scoped out of the assessment.</p>

ID	Ref	Description	Inspectorate's comments
372	Table 11-9	Data sources – local fishing fleet	<p>The Applicant is directed to the comments from the MMO and recommends that the local small-scale/inshore fishing federations/organisations in the wider Mersey, Liverpool and Wirral area are contacted for information to ensure that data from vessels under 10m are fully represented and appropriately assessed,</p>
373	n/a	Underwater noise and vibration	<p>The Inspectorate notes that effects on commercial fisheries from underwater noise and vibration is scoped into the assessment in Scoping Report Chapter 12. The ES should cross refer to the proposed underwater noise and vibration appendix and provide an assessment, where significant effects are likely to occur.</p> <p>Please see Section 3.8 of this Scoping Opinion for the Inspectorate's comments on the approach to underwater noise and vibration.</p>

3.8 Underwater Noise and Vibration

(Scoping Report Section 12)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
381	n/a	n/a	No matters have been proposed to be scoped out of the assessment

ID	Ref	Description	Inspectorate's comments
382	Paragraphs 12.5.3 and 12.8.2	Underwater noise – general approach	<p>The Applicant's intends to provide an appendix in the ES covering underwater noise and vibration. The Inspectorate is content with the approach of providing data on the levels of likely underwater noise and vibration within the appendix to which relevant chapters refer to in their assessments, provided there is appropriate cross reference in each relevant chapter assessment and that the information is easy to find and refer to.</p> <p>It is noted that currently, however, none of the aspect chapters listed in paragraph 12.8.2 refer to the proposed noise and vibration appendix as the approach within the scoping report. This should be addressed in the ES.</p>

3.9 Terrestrial Ecology and Biodiversity

(Scoping Report Section 13)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
391	Paragraph 13.10.11	Effects on port and marine facilities	<p>The Scoping Report seeks to scope out effects associated with the use of the port and marine facilities on non-statutory designated sites, freshwater watercourses and associated species, badger, hazel dormouse and other mammals and reptiles, on the basis that:</p> <ul style="list-style-type: none"> • these habitats or species are unlikely to be found at the site; • species are already subject to high levels of noise / light / visual disturbance; and • works will reuse existing facilities. <p>The Inspectorate notes that several locations are under consideration for the port and marine facilities and the works required are not yet confirmed. No baseline data have yet been collected for these facilities. The Inspectorate considers therefore that effects from works at the port and marine facilities cannot be scoped out of the assessment at this stage. However, the Inspectorate agrees that while there is uncertainty over locations and facilities, effects on badger and hazel dormouse at port or marine facilities are unlikely to be significant. Provided this is confirmed with appropriate evidence in the ES, on that basis can be scoped out of further assessment.</p>

ID	Ref	Description	Inspectorate's comments
392	Paragraphs 13.1.6 and	Study area	<p>The ES should clearly define and justify the study area with reference to the Zone of Influence for the Proposed Development. The Scoping Report (paragraph 13.1.6) refers to a list of other ecological aspects with which the terrestrial ecology assessment would interface. It should be explained in the ES how the spatial extent of those assessments</p>

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ID	Ref	Description	Inspectorate's comments
	13.3.3		could affect the extent of the study area for the terrestrial ecology assessment. This should be appropriately cross referenced in the ES.
393	Paragraph 13.5.4	Duration of effect	The durations set out in the Scoping Report do not appear to reflect the likely duration of the Proposed Development activities set out in Scoping Report Section 2.8. This should be reviewed and addressed in the ES.
394	Table 13-9	Embedded mitigation measures	ID 13-1 of this Scoping Report table notes commitments to minimise or avoid habitat loss in habitats of biodiversity value, although these measures are caveated as 'where possible' or 'where appropriate'. The Inspectorate notes that measure OM5 in the commitments register (Scoping Report Appendix 3.1) commits to implementation of the mitigation hierarchy to avoid important or designated sites. The ES should demonstrate how effort has been made to apply this commitment, given the potential for the Proposed Development to affect numerous designated ecological sites listed in Scoping Report Tables 13-4 to 13-6. Please also refer to the Inspectorate's overarching comments in ID 2.0.2 of this Scoping Opinion.
395	Table 13-9	Landscape and Ecology Management Plan (LEMP)	The ES should define the terms short / medium / long term duration in relation to the commitments and in relation to management and monitoring in a LEMP.
396	Table 13-10	Protected species surveys	Surveys for protected species should also consider presence of protected species in areas outside of designated sites.
397	Table 13-10	Effects on coastal habitats	It is not clear where in the ES effects on coastal habitats would be assessed. The assessment should consider the effects on coastal habitats (e.g. sand dunes, shingle, maritime cliffs or slope) from sediment transport and changes to tidal regimes and from changes to air quality.
398	n/a	Identification of designated sites	Given the stage of the Proposed Development and uncertainty surrounding the location of, for example, the tidal barrage, the Inspectorate considers that the Applicant should review

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ID	Ref	Description	Inspectorate's comments
			the list of designated sites and species considered to be directly or indirectly affected as the project progresses and in consultation with relevant consultation bodies.
399	n/a	Trenchless cable laying methods	Where cables are proposed to be laid beneath watercourses using trenchless techniques, the impact on fish from noise and vibration should be assessed in the ES, where significant effects are likely to occur.

3.10 Socio-economics

(Scoping Report Section 14)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.101	Table 14-10 Paragraph 14.10.4	Construction worker accommodation	<p>The Scoping Report seeks to scope out effects from increased demand for accommodation from an influx of temporary workers on the basis that the majority of workers would come from within a 1-hour commute of the Proposed Development.</p> <p>The Inspectorate notes that there is potential for up to 5,000 construction workers to be required for the Proposed Development and potential for some specialist skilled workers to be required that may not be available in the local area.</p> <p>The Inspectorate considers that there is not enough information to currently scope out effects related to temporary worker accommodation, given the potential numbers of construction workers required. The ES should demonstrate the numbers of workers that may require temporary accommodation and provide an assessment of effects, where significant effects may occur.</p>
3.102	Table 14-10 Paragraph 14.10.4	Operation and maintenance employment	<p>The Scoping Report seeks to scope out operation and maintenance employment on the basis of an assumption that this would require a maximum of 70 full time employees. The Inspectorate agrees that this matter can be scoped out of the assessment on this basis.</p>
3.103	Table 14-10 Paragraph 14.10.4	Decommissioning employment	<p>The Scoping Report seeks to scope out employment generation from the decommissioning stage on the basis of uncertainties over the scale and extent of activities and the employment requirements.</p> <p>Please refer to IDs 2.0.9 to 2.0.11 of this Scoping Opinion for the Inspectorate's comments on decommissioning and major maintenance activities. The Inspectorate considers that the ES should include an estimate of the likely employment generation this would require.</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			Where significant effects are likely to occur, an assessment should be provided of the effects and a decommissioning plan provided.

ID	Ref	Description	Inspectorate's comments
3.10.4	Paragraph 14.1.4	Cross reference to other assessments	The Inspectorate considers that the socio-economics assessment should ensure appropriate cross reference to the ES chapter on land use, tourism and recreation and health impact assessment.

3.11 Major Accidents and Disasters

(Scoping Report Section 13)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.11.1	Table 15-6	Natural hazards	<p>The Scoping Report seeks to scope out the following natural hazards:</p> <ul style="list-style-type: none"> • earthquakes; • volcanic activity; and • landslips. <p>on the basis that the Proposed Development does not lie within an active area for these hazards. Earthquakes are also considered to be infrequent and rarely cause large amounts of damage.</p> <p>The Inspectorate agrees that these matters can be scoped out of the assessment.</p>
3.11.2	Table 15-6	Sinkholes	<p>The Scoping Report seeks to scope out effects from sinkholes as there are no records of sinkholes in the local area and the local geology is not vulnerable to the formation of sink holes.</p> <p>The Inspectorate agrees that this matter can be scoped out of the assessment.</p>
3.11.3	Table 15-6	Tsunamis – tidal barrage	<p>The Scoping Report seeks to scope out tsunami effects caused by weather events on the basis of a low risk of these events occurring.</p> <p>The Inspectorate considers that given the nature and location of the Proposed Development, its proposed design lifespan and as the conclusions do not refer to any predicated changes to climate or weather, that this risk cannot be scoped out of the assessment at this stage for the tidal barrage.</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.11.4	Table 15-6	Coastal, fluvial, pluvial and groundwater flooding Wave surges	<p>The Scoping Report seeks to scope out these flood risks on the basis that a flood risk assessment would be provided as part of the assessment of effects on water resources and flood risk in the ES.</p> <p>The Inspectorate agrees that these matters can therefore be scoped out of the assessment of major accidents and disasters.</p>
3.11.5	Table 15-6	Avalanches	<p>The Scoping Report seeks to scope out risks from avalanches on the basis of the flat topography of the Proposed Development. The Inspectorate agrees that this matter can be scoped out of the assessment.</p>
3.11.6	Table 15-6	Cyclones, hurricanes, typhoons, storms and gales.	<p>The Scoping Report seeks to scope out risks from these events on the basis of embedded design measures and control processes that take account of UK weather conditions.</p> <p>The Inspectorate agrees that provided the ES sets out the design measures and the proposed emergency response plans in place to manage such events should they occur, that these matters can be scoped out of the assessment.</p>
3.11.7	Table 15-6	Thunderstorms – construction phase	<p>The Scoping Report seeks to scope out risks from thunderstorms on the basis of embedded design measures that take account of UK weather conditions.</p> <p>The Inspectorate agrees that provided the ES sets out the design measures and the proposed emergency response plans in place to manage such events should they occur, that these matters can be scoped out of the assessment.</p>
3.11.8	Table 15-6	Extremes of temperature	<p>The Scoping Report seeks to scope out risks from extreme temperatures including heatwave, low (sub-zero) temperatures and heavy snow on the basis that risks relating to extreme weather conditions would be no different to other infrastructure in the locality, therefore specific measures and further assessment are therefore not considered to be required.</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			<p>The Inspectorate agrees that provided the ES sets out the design measures and the proposed emergency response plans in place to manage such events should they occur, that these matters can be scoped out of the assessment.</p>
3.11.9	Table 15-6	Drought - operation	<p>The Scoping Report seeks to scope out effects from drought on the Proposed Development on the basis that design measures and emergency measures would be in place to address these events should they occur.</p> <p>The Inspectorate agrees that this matter can be scoped out of the assessment provided an outline of the control plans that would be in place for the lifetime of the Proposed Development, along with details of how these plans would be managed, monitored and secured, are provided within the ES.</p>
3.11.10	Table 15-6	Severe space weather – solar flares	<p>The Scoping Report seeks to scope out effects from solar flares on the basis that the Proposed Development is no more vulnerable than other similar infrastructure in the locality which relies on telemetry and no significant impacts are anticipated.</p> <p>The Inspectorate agrees that provided the ES sets out the design measures and the proposed emergency response plans in place to manage such events, that these matters can be scoped out of the assessment.</p>
3.11.11	Table 15-6	Severe space weather – solar energetic particles, coronal mass ejections – construction and operation phase	<p>The Scoping Report seeks to scope out effects from solar energetic particles and coronal mass ejections on the basis that solar energetic particles cause solar radiation storms, but only in outer space and although coronal mass ejections (CME) cause geomagnetic storms, no significant impacts are anticipated.</p> <p>The Inspectorate agrees that provided the ES sets out the design measures and the proposed emergency response plans in place to manage such events, that these matters can be scoped out of the assessment.</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.11.12	Table 15-6	Fog	<p>The Scoping Report seeks to scope out effects from fog on the basis that it would only be during the construction phase when fog could impact the Project, with regards construction workers travelling, but this risk would not be significantly different from the baseline, in addition to workers' health and safety also being managed by Occupational Health and Safety legislation.</p> <p>During the construction phase, the risks associated with poor visibility conditions will be considered and appropriate mitigation identified in the relevant risk registers and emergency preparedness and response plans. During the operational phase there would be the potential for vessels to collide with the tidal barrage however, this risk is considered in Chapter 16: Shipping and Navigation.</p> <p>The Inspectorate is content that this matter can therefore be scoped out of the assessment.</p>
3.11.13	Table 15-6	Wildfires – Forest fire, bush, brush, pasture	<p>The Scoping Report seeks to scope out effects from wildfires on the basis that the Proposed Development is not located in, or surrounded by, significantly large areas of woodland that could be at risk of wildfire events during hot, dry periods and / or fires initiated by construction related activities.</p> <p>The Inspectorate is content that this matter can therefore be scoped out of the assessment.</p>
3.11.14	Table 15-6	Poor air quality	<p>The Scoping Report seeks to scope out effects from poor air quality on the basis that effects would be temporary for the duration of the construction phase and no significant effects are anticipated.</p> <p>The Inspectorate notes that an air quality assessment is scoped into the assessment of Scoping Report Chapter 21. Provided the ES sets out the design measures and management plans to manage air quality effects arising from construction activities, this matter can be scoped out of the assessment of major accidents and disasters.</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.11.15	Table 15-6	Disease epidemics: Viral, Bacterial; Parasitic; Fungal; and Prion	<p>The Scoping Report seeks to scope out effects from disease epidemics on the basis that the Project is located in a developed country where the population is in general good health and the vulnerability of the Proposed Development during construction and operation should be mitigated by the occupational health and safety processes that are implemented by both the contractor and government rules and guidelines.</p> <p>The Inspectorate agrees that provided the ES sets out the measures and the proposed response plans in place to manage such events, that these matters can be scoped out of the assessment.</p>
3.11.16	Table 15-6	Animal Diseases: Avian influenza; West Nile virus; Rabies; Foot and mouth; and Swine fever	<p>The Scoping Report seeks to scope out effects from animal diseases on the basis that the Proposed Development would not be the source of any disease epidemics and significant effects are not anticipated.</p> <p>The Inspectorate agrees that provided the ES sets out measures and the proposed emergency response plans in place to manage such events, that these matters can be scoped out of the assessment.</p>
3.11.17	Table 15-6	Plants	<p>The Scoping Report seeks to scope out effects from plants, on the basis that a survey of non-native species would be carried out and control measures implemented by the appointed contractor during construction to handle and dispose of any diseased plants and / or injurious weeds and prevent their spread.</p> <p>The Inspectorate notes the assessment of INNS is scoped into the assessment in Scoping Report Chapter 7 and therefore agrees this can be scoped out of the assessment of major accidents and disasters.</p>
3.11.18	Table 15-6	Societal Hazards: Extensive public demonstrations which could lead to	<p>The Scoping Report seeks to scope out these matters on the basis that the Proposed Development would be located in a developed country that has steady, yet small population growth and is politically stable with no direct border with countries experiencing</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
		<p>violence and loss of life</p> <p>Widespread damage to societies and economies</p> <p>The need for large scale multi-faceted humanitarian assistance</p> <p>The hindrance or prevention of humanitarian assistance by political and military constraints</p> <p>Significant security risks for humanitarian relief workers in some areas</p> <p>– construction and operation phases</p>	<p>conflicts. Additionally, the Proposed Development is not considered highly controversial and should not lead to high profile public demonstrations.</p> <p>The Inspectorate is content that this matter can therefore be scoped out of the assessment.</p>
311.19	Table 15-6	Famine – construction and operation	The Scoping Report seeks to scope out effects from famine on the basis that the Proposed Development is located in a developed country that produces its own crops and imports food, in addition to being politically stable. Famine is also not relevant to the use of the Proposed Development.

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			The Inspectorate is content that this matter can therefore be scoped out of the assessment.
3.11.20	Table 15-6	Displaced population – construction and operation	<p>The Scoping Report seeks to scope out effects from displaced population on the basis that there would be no displacement of populations as part of the Project.</p> <p>The Inspectorate is content that this matter can therefore be scoped out of the assessment.</p>
3.11.21	Table 15-6	Major Accident Hazard Chemical sites – Maintenance and decommissioning phase	The Scoping Report seeks to scope out this matter and no text is provided by means of explanation. The Inspectorate notes from the response of HSE that there are major hazard sites and pipeline consultation zones within the scoping boundary. Given the stage of the Proposed Development and its location, the Inspectorate does not agree these matters can be scoped out of the assessment at this stage.
3.11.22	Table 15-6	Major Accident Hazard Pipelines – Operation, Maintenance and decommissioning phase	The Scoping Report seeks to scope out this matter and no text is provided by means of explanation. The Inspectorate notes from the response of HSE that there are major hazard sites and pipeline consultation zones within the scoping boundary. Given the stage of the Proposed Development and its location, the Inspectorate does not agree these matters can be scoped out of the assessment at this stage.
3.11.23	Table 15-6	Nuclear	<p>The Scoping Report seeks to scope out effects from nuclear on the basis that nuclear sites are designed, built and operated so that the chance of accidental releases of radiological material in the UK is extremely low. There are also no nuclear sites within a 5km radius of the proposed tidal barrage.</p> <p>One of the possible grid connection points is located adjacent to Capenhurst and any works in this area will be undertaken in accordance with method statements and risk assessments developed in collaboration with Capenhurst.</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			<p>Given the potential nuclear risks associated with the potential grid connection point, the Inspectorate therefore does not agree that this matter can be scoped out of the assessment at this time.</p>
3.11.24	Table 15-6	Fuel storage	<p>The Scoping Report seeks to scope out effects in relation to fuel storage on the basis that potential risks associated with the presence of these bulk fuel facilities will be addressed under the event type Major Accident Hazard Chemical Sites.</p> <p>Please refer to ID 3.11.21 of this Scoping Opinion above for the Inspectorate's comments on Major Accident Hazard Chemical sites. The Inspectorate agrees that provided this includes consideration of fuel storage, that this matter can be scoped out of separate consideration in the assessment.</p>
3.11.25	Table 15-6	Dam breaches	<p>The Scoping Report seeks to scope out effects in relation to dam breaches on the basis that they are rare in the UK and reservoir flooding is unlikely to occur due to the monitoring and maintenance of reservoirs and dams.</p> <p>The Inspectorate does not agree that this matter can be scoped out on the basis that the development itself could be the subject of a breach, in addition to flood defences within proximity to the Proposed Development.</p>
3.11.26	Table 15-6	Mines and storage caverns	<p>The Scoping Report seeks to scope out effects in relation to mines and storage caverns on the basis that the proposed Barrage area and grid connection route is not situated within a Coal Authority Coal Mining Reporting Area.</p> <p>Please refer to ID 3.19.1 of this Scoping Opinion for the Inspectorate's comments in relation to land stability. Appropriate cross reference to this chapter in the ES should be made, and as such the Inspectorate does not agree that land stability can be scoped out of the assessment at this stage.</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.11.27	Table 15-6	Fires	<p>The Scoping Report seeks to scope out effects in relation to fires on the basis that standard control measures would be implemented by the appointed contractor to manage the risk of fire and the risk of fires affecting the Proposed Development during operation is no greater than risks for existing developments in an urban environment.</p> <p>The Inspectorate is content with this approach subject to the appropriate control measures being secured and implemented within the dDCO.</p>
3.11.28	Table 15-6	Road	<p>The Scoping Report seeks to scope out effects in relation to road accidents on the basis that the majority of components and materials associated with the tidal barrage and grid connection construction will be transported by marine methods and a Construction Traffic Management Plan will be implemented. In addition, the potential risks associated with road transport accidents during the construction phase are being considered as part of the ES. No significant effects are therefore anticipated.</p> <p>The Inspectorate is content with this approach subject to the appropriate Construction Traffic Management Plan being secured and implemented.</p>
3.11.29	Table 15-6	Rail	<p>The Scoping Report seeks to scope out effects in relation to rail on the basis that the grid connection cable will be located below ground and is likely to be installed beneath the railway using horizontal directional drilling. In addition, prior to construction the Applicant or the appointed construction contractor will engage with National Rail to develop and agree appropriate method statements and risk assessments.</p> <p>The Inspectorate notes that the Proposed Development involves a crossing of the Wirral Railway Line and that details of the grid connection (including whether it will be laid under or overground) are not yet defined. As such, the Inspectorate considers that this matter cannot be scoped out of the assessment at this stage.</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.11.30	Table 15-6	Waterways	<p>The Scoping Report seeks to scope out effects in relation to waterways on the basis that Chapter 16: Shipping and Navigation considers the potential risks and proposes that a Navigation Risk Assessment will be undertaken as part of the ES.</p> <p>The Inspectorate is content that provided this matter is addressed through a Navigation Risk Assessment and shipping and navigation assessment, that this matter can be scoped out of the assessment.</p>
3.11.31	Table 15-6	Aviation - operation	<p>The Scoping Report seeks to scope out effects in relation to aviation on the basis that, during operation, the risks associated with the presence of the Project should be no greater than the current situation. Risks are also scoped into the assessment for the construction phase to take account of tall construction equipment.</p> <p>The Inspectorate is content that this matter can therefore be scoped out of the assessment for the operational phase.</p>
3.11.32	Table 15-6	Air	<p>The Scoping Report seeks to scope out effects in relation to air on the basis that it is anticipated that there are limited opportunities for pollution accidents to air during either construction or operation due to the nature of the Proposed Development and as this issue will also be dealt with elsewhere in the ES, with the appropriate management plans and measures being proposed and implemented.</p> <p>The Inspectorate is content that this matter can therefore be scoped out of the assessment.</p>
3.11.33	Table 15-6	Land pollution	<p>The Scoping Report seeks to scope out effects in relation to land on the basis that standard control measures would be implemented by the appointed contractor and identified in the Outline CEMP to manage the risk of spillages and leaks. During operation only very small quantities of materials will be stored for maintenance purposes and would be stored appropriately and provided with secondary containment.</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			<p>The Inspectorate notes this matter is addressed within other aspect chapters. The ES should explain where appropriate management and control measures to reduce/ avoid potential pollution events are secured through the dDCO (such as a CEMP during the construction phase) or other legal mechanism, for all phases of the Proposed Development. On this basis, the Inspectorate agrees this matter can be scoped out of separate assessment.</p>
3.11.34	Table 15-6	Water pollution	<p>The Scoping Report seeks to scope out effects in relation to water on the basis that this matter would be dealt with elsewhere in the ES and standard control measures would be implemented by the appointed contractor during the construction phase to manage the risk of spillages and leaks. During operation only very small quantities of materials will be stored for maintenance purposes, which would be stored appropriately and provided with secondary containment.</p> <p>The Inspectorate notes this matter is addressed within other aspect chapters. The ES should explain where appropriate management and control measures to reduce/ avoid potential pollution events are secured through the dDCO (such as a CEMP during the construction phase) or other legal mechanism, for all phases of the Proposed Development. On this basis, the Inspectorate agrees this matter can be scoped out of separate assessment.</p>
3.11.35	Table 15-6	Utilities failures - electricity	<p>The Scoping Report seeks to scope out effects in relation to electricity on the basis that the responsibility would lie with the relevant local operator or company should this infrastructure fail. The responsibility for any diversion works and the installation of new electrical infrastructure would also lie with the relevant local operator or company. Information regarding diversion works will be considered in the ES, however the potential risk of construction-related incidents when undertaking diversion works as part of the grid connection would be covered by existing legislation.</p> <p>The Inspectorate is content with this approach.</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.11.36	Table 15-6	Utilities failures - gas	<p>The Scoping Report seeks to scope out effects in relation to gas on the basis that the responsibility would lie with the relevant local operator or company should this infrastructure fail. If there is the requirement to undertake any diversion works, these would be undertaken by the operator and would be covered by existing legislation. In addition, there is no gas use associated with the Proposed Development.</p> <p>The Inspectorate is content with this approach.</p>
3.11.37	Table 15-6	Utilities failures - water supply	<p>The Scoping Report seeks to scope out effects in relation to water supply on the basis that the Strategic Water Resource Zone (WRZ) that serves the area of the Proposed Development has a water stress designation classified as "not serious". There would be minor potable water use for welfare purposes during its operation and relatively low use during construction, which could be addressed by bringing supplies in by tanker, if required.</p> <p>The Inspectorate notes that the Proposed Development may require a cooling water system for the turbines that would require a water supply. The effect of failure of the water supply cannot therefore be scoped out of the assessment at this stage.</p>
3.11.38	Table 15-6	Sewage system	<p>The Scoping Report seeks to scope out effects in relation to the sewage system as during operation of the Proposed Development there will be the requirement to connect into the existing sewage system for the disposal of foul water associated with the welfare facilities and the Applicant will engage with United Utilities to ensure that the existing sewage system has sufficient capacity. During the construction phase, temporary portable systems will be in place covered by Health and Safety welfare requirements.</p> <p>The Inspectorate is content with this approach and agrees that this matter can be scoped out of the assessment.</p>
3.11.39	Table 15-6	Unexploded Ordnance	<p>The Scoping Report seeks to scope out effects in relation to unexploded ordnance on the basis that prior to the installation of any infrastructure, clearance would be undertaken.</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			<p>Measures would be also be undertaken during construction to brief operatives to raise awareness of this issue, and to define appropriate response strategies should unexploded ordnance be discovered during the works.</p> <p>The Inspectorate notes that the Proposed Development lies in an area of high unexploded ordnance risk and no details are supplied of the proposed methods of working and risk levels. As such, it does not agree that this matter can be scoped out of the assessment at this stage.</p>
3.11.40	Table 15-6	<p>Attacks: Chemical; Biological; Radiological; and Nuclear</p> <p>Malicious attacks – transport systems, crowded places – construction and operation phase</p>	<p>The Scoping Report seeks to scope out effects in relation to these sorts of attacks on the basis that the Proposed Development is unlikely to be a target for this type of event due to the low number of exposed targets.</p> <p>The Inspectorate agrees that this matter can be scoped out of the assessment at this stage.</p>
3.11.41	Table 15-6	<p>Malicious attacks – Cyber – construction and operation phase</p>	<p>The Scoping Report seeks to scope out effects in relation to cyber-attacks on the basis that it is not considered to be more vulnerable to attack than other similar infrastructure installed and running in the UK.</p> <p>The Inspectorate notes that there is potential for remote telemetry to be used to operate the tidal barrage but limited information is available in the scoping report as to the operation of the Proposed Development and the measures to protect it from malicious attack. The Inspectorate considers that this matter cannot therefore be scoped out of the assessment at this stage.</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.11.42	Table 15-6	Malicious attacks - Infrastructure	<p>The Scoping Report seeks to scope out effects in relation to attacks on infrastructure due to the fact that an anticipated low number of exposed targets would make the tidal barrage less attractive than other softer targets. In addition, the perceived structural soundness could act as a deterrent from attack. This risk would remain in the design risk register, which will include the requirement to undertake a terrorism risk assessment, with appropriate mitigation measures to be integrated into the design.</p> <p>The Inspectorate is content with this approach, subject to the appropriate design measures, mitigation measures and risk assessment(s) being proposed and implemented.</p>
3.11.43	Table 15-6	Bridge failure – construction and operation phase	<p>The Scoping Report seeks to scope out effects in relation to bridge failure on the basis that the structure would be designed to meet modern safety standards, which reduces the likelihood of future failure. The risk associated with the failure of the tidal barrage is considered no greater than other similar new structures designed to comparable standards.</p> <p>The Inspectorate is content with this approach.</p>
3.11.44	Table 15-6	Flood defence failure – construction and operation phase	<p>The Scoping Report seeks to scope out effects in relation to flood defence failure on the basis that the design of the Proposed Development has been developed to include allowances for future climate change predictions that could result in flooding. Notwithstanding these factors, the potential risk of breach events will be considered in the ES as part of the Flood Risk Assessment.</p> <p>The Inspectorate notes that consideration of flood defence failure is not specifically scoped into the assessment of flood risk and that further work to define the approach to the Flood Risk Assessment is proposed. As such, it does not agree that this matter can be scoped out of the assessment at this stage.</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.11.45	Table 15-6	Mast and tower collapse – construction and operation phase	<p>The Scoping Report seeks to scope out effects in relation to mast and tower collapse on the basis that there are no towers or masts in close proximity to the Proposed Development or being built as part of the Proposed Development.</p> <p>The Inspectorate notes that there is potential for other similar tall structures such as cranes to be required during construction of the Proposed Development. Given the location and potential scale of the Proposed Development, the Inspectorate does not agree that this matter can be scoped out of the assessment at this stage.</p>
3.11.46	Table 15-6	Property or bridge demolition accidents - construction and operation phase	<p>The Scoping Report seeks to scope out effects in relation to property or bridge demolition accidents on the basis that the Proposed Development does not involve any demolition works.</p> <p>The Inspectorate agrees that this matter can therefore be scoped out of the assessment.</p>
3.11.47	Paragraph 15.10.8	Occupational health and safety	The Scoping Report seeks to scope out this matter in accordance with emerging EIA practice. The Inspectorate directs the Applicant to Section 3.27 of this Scoping Opinion for its comments on the approach to the assessment of human health.

ID	Ref	Description	Inspectorate's comments
3.11.48	n/a	n/a	n/a

3.12 Shipping and Navigation

(Scoping Report Section 16)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.121	n/a	n/a	No matters have been proposed to be scoped out of the assessment

ID	Ref	Description	Inspectorate's comments
3.122	Paragraph 16.6.10	Levels of effect	The ES should further explain how a 'considerable' and 'noticeable' effect would be defined in the methodology for the shipping and navigation assessment.
3.123	Paragraph 16.7.7	Receptors – Liverpool South Dock and marina	The ES should include an assessment of effects on the navigational safety and use by recreational vessels associated with Liverpool South Dock and marina, where significant effects are likely to occur. The assessment should cross refer to the assessments on land use, recreation and tourism and marine infrastructure and other users in this regard.

3.13 Marine Archaeology and Cultural Heritage

(Scoping Report Section 17)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.13.1	Table 17-4 and paragraph 17.10.6	Direct impact to terrestrial cultural heritage assets	<p>The Scoping Report seeks to scope this matter out on the basis that direct impacts to these assets through changes in their setting would be assessed within the terrestrial archaeology and cultural heritage chapter. The Inspectorate notes that Table 18-4 seeks to scope in setting effects to these assets from marine works. On this basis and having regard to the Inspectorate's comments about direct physical effects at ID 3.14.6 of this Opinion, the Inspectorate agrees this matter can be scoped out of further assessment.</p>
3.13.2	Table 17-4 and paragraph 17.10.5	Direct impact during decommissioning activities	<p>The Scoping Report seeks to scope out effects during decommissioning on the basis that effects would be minor as the archaeological remains and/ or geoarchaeological deposits would have been disturbed and mitigated during construction or operation. It is stated that best practice measures such as a Written Scheme of Investigation (WSI) may be required to ensure any additional disturbance is mitigated through preservation by record. Table 17-3 proposes an embedded measure of a decommissioning programme, which would include a protocol for archaeological discoveries (PAD) during decommissioning. Scoping Report Appendix 3.1 indicates that this is proposed to be secured by DCO requirement.</p> <p>In the absence of detail about the location of assets and the Proposed Development and the likely decommissioning methods, and noting that decommissioning is proposed to be scoped in for several effect pathways for coastal processes, the Inspectorate is not able to exclude the possibility of significant effects during decommissioning. This matter should be assessed in the ES, or it should otherwise be demonstrated (with evidence of agreement from relevant consultation bodies) that significant effects are not likely to occur.</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.133	Paragraph 17.12.1	Transboundary effects	The Inspectorate is not able to agree to scope this matter out until it has undertaken its own transboundary screening. See the Inspectorate's comments at ID 2.1.7 of this Opinion.

ID	Ref	Description	Inspectorate's comments
3.134	Paragraph 17.3.1	Study area	<p>The proposed study area is 5km from the tidal barrage development area extending into the tidal Mersey estuary and seawards of MHWS. The Scoping Report states that this is based on professional judgment and to ensure potential assets which do not have confirmed or accurate locations are included in assessment.</p> <p>The Scoping Report does not explain why the area chosen is sufficient to reflect the likely Zone of Influence (Zol) for the Proposed Development. The ES should be based on a defined study area, which is sufficient to identify the likely significant effects of the Proposed Development, including any potential effects caused by changes to coastal processes (noting that Figure 5.1 shows the current coastal processes study area being wider than that for marine archaeology and cultural heritage). The ES should also confirm whether the study area aligns with relevant policy and guidance and provide justification for any divergences.</p>
3.135	Paragraph 17.4.2	Receptors in overlapping zones, eg intertidal, or relevant to marine and terrestrial environments	<p>The Scoping Report states that consultation with relevant consultation bodies will be held in respect of effects on archaeological remains in the intertidal zone and effects on geoarchaeological receptors representing survival of sequences also observed in the terrestrial zone. However, it is unclear how these matters would be assessed in the ES.</p> <p>The Inspectorate advises that there should be no omission in the assessment work because of how the marine and terrestrial study areas are delineated. The ES should include an assessment of receptors in the intertidal area where likely significant effects could occur. Similarly, it should identify any likely significant effects to receptors which</p>

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ID	Ref	Description	Inspectorate's comments
			extend across study areas, including individual receptors that have group significance. Use of cross-referencing to avoid duplication is acceptable but should be clear and accurate.
3.136	Table 17-2	Baseline data sources	Table 17-2 sets out publicly available data sources, which the Scoping Report states have been consulted to determine the baseline character of the study area. It lists the Merseyside Historic Environment Record but indicates that this source has not yet been consulted. For the avoidance of doubt, the Inspectorate advises that this source is used to inform the assessment. The Applicant's attention is drawn to the comments of Wirral Council (Appendix 2 of this Scoping Opinion).
3.137	Paragraphs 17.6.11 and 17.13.2	Baseline survey	<p>The Scoping Report states that potential for presence of archaeological and paleoenvironmental remains will be considered in a desk-based assessment and through archaeological assessment of any marine geophysical and geotechnical survey data. Paragraph 17.3.2 states that geophysical survey results will be considered to identify potential wreck remains and the location of dredging.</p> <p>Effort should be made to agree the scope of desk-based assessment and site survey with relevant consultation bodies. Desk-based sources of information should be corroborated with survey work, which should be carried out in conjunction with specialist archaeological input. The Inspectorate recommends that an outline WSI is developed at the early stage of survey commissioning to set out methodological approaches for survey data analysis, such as geophysical, geotechnical and visual inspection techniques. Following the analysis, any proposed mitigation measures should be outlined in an archaeological mitigation strategy. Any remaining data gaps in understanding possible archaeological potential should be explained.</p>
3.138	Table 17-3	Embedded environmental measures - preservation in situ	Table 17-3, ID OM5 states that mitigation leading to preservation in situ will be advocated and archaeological exclusion zones will be implemented around heritage assets. The equivalent entry in Appendix 3.1 states that this would be secured through evidence led design and does not refer to a DCO requirement. Mitigation should be fully described in the ES, including the need for archaeological exclusion zones; if required, this should include details of the exclusion zones and the mechanism for securing them.

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ID	Ref	Description	Inspectorate's comments
3.13.9	Table 17-3	Embedded environmental measures - working methods	Embedded measure ID 17-1 relates to selection of appropriate working methods to mitigate loss or disturbance of submerged historic landscape elements. It is stated that this would include avoidance of assets and geophysical anomalies by a minimum of 30m during riverbed preparation and installation activities. The Inspectorate advises that the ES must set out the basis on which the final buffer for avoidance of assets and anomalies is selected, which should be based on an understanding of the assets and the potential Zol for effects. It should be clear that the mitigation proposed would address the worst case for potential effects for the working methods that could be used.
3.13.10	Table 17-3	Embedded environmental measures - design	The Inspectorate notes that the information presented in Table 17-3 in respect of ID 17-2 varies slightly from the information in Scoping Report Appendix 3.1 For the avoidance of doubt, the Inspectorate understands that there will be a requirement in the dDCO relating to approval of the detailed design of the built infrastructure, including form, massing, materiality and colour, which will include input from heritage specialists.
3.13.11	Table 17-4	Effects scoped into the ES	For two impact pathways scoped in for further assessment (indirect impact of altered riverbed conditions and indirect impact from discovery), the Scoping Report does not specify if these matters would be assessed for construction, operation or both. This should be clarified in the ES; the assessment should consider each phase where likely significant effects could occur.
3.13.12	Paragraph 17.13.11	Determining significance	The Scoping Report states that where sufficient information is not available to quantify the asset significance or magnitude of change with certainty, the effect would be given as uncertain. The Inspectorate advises that in such instances, an effect significance should be presented based on a worst case; any assumptions used should be explained in the ES and where effects are predicted to be significant adverse, mitigation should be identified.
3.13.13	Paragraph 17.13.15	Policy tests	It is stated that rather than applying the test of the National Policy Statement (NPS) (ie harm or substantial harm) when considering the effects on heritage assets, the language used has been correlated with EIA methodology.

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ID	Ref	Description	Inspectorate's comments
			The Inspectorate is unclear from the information presented how the language is proposed to be correlated. The Inspectorate advises that this should be explained in the ES and it should be clear within the assessment as to whether the Proposed Development would result in significant effects in accordance with the EIA methodology and harm to heritage assets in respect of the tests set out in the relevant NPS and, if so, the level of harm including if it would constitute substantial harm.

3.14 Terrestrial Archaeology and Cultural Heritage

(Scoping Report Section 18)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.14.1	Table 18-4 and paragraph 18.10.4	Temporary setting effects to above ground designated and non-designated heritage assets (construction)	<p>The Scoping Report seeks to scope this matter out for construction activity (visual and auditory changes from construction equipment and activity) related to construction of the tidal barrage, operational buildings, cable trenching and construction compounds on the basis that impacts would be short term and of lesser significance than permanent operation phase effects.</p> <p>The Inspectorate notes that the construction phase could last between 7 and 10 years (paragraph 2.5.23 of the Scoping Report). The Inspectorate does not agree with the assumption that the construction phase effects would be of lesser significance and at this stage does not have sufficient clarity about the potential noise, dust and visual impacts, including those associated with HGV traffic movements. In addition, flexibility remains in terms of the Proposed Development location within the scoping boundary so it is not possible to ascertain potential to impact on the setting of these receptors. The Inspectorate does not agree to scope this matter out of the ES and an assessment should be undertaken for those receptors scoped in for the operational phase setting effects.</p>
3.14.2	Table 18-4 and paragraph 18.10.4	Setting effects to buried heritage assets from presence of operational and maintenance buildings and cable trench (operation)	<p>The Scoping Report seeks to scope this matter out on the basis that there would be no further ground disturbance following completion of the construction phase.</p> <p>The Inspectorate does not have sufficient justification to agree that this matter can be scoped out of further assessment. The ES should confirm if major maintenance activities would result in ground disturbance and, if so, any likely significant effects arising should be assessed. Please refer to the Inspectorate's comments at ID 2.0.9 of this Opinion about major maintenance.</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			<p>Paragraph 2.7.9 of the Scoping Report states that during operation, upper intertidal and salt marsh areas may be permanently exposed due to lowered water levels. The ES should describe any impact pathways to archaeological deposits and materials present within these areas. It should confirm if there would be a corresponding drop in the terrestrial water table; if so, it should describe any impact on the preservation of archaeological deposits or material identified in baseline work. The ES should include an assessment of any significant effects likely to occur from these impact pathways.</p> <p>The Inspectorate advises that the ES must identify any mitigation required to address construction phase effects, including those that might be ongoing during operation. Any mitigation must be appropriately secured.</p>
3.143	Table 18-4 and paragraph 18.10.4	Setting effects to above ground heritage assets arising from new built form near the cable route (operation)	<p>The Scoping Report seeks to scope this matter out on the basis that works would comprise only below ground disturbance. It is stated that if substantial above ground infrastructure is proposed (e.g. substations or overhead power lines) then the approach would be revised and where necessary potential effects will be considered.</p> <p>The Inspectorate notes that Chapter 2 of the Scoping Report states the grid connection could be overhead line or underground cable, and that a substation may be required, but it is proposed to narrow optionality in the PEIR. It is also stated that a shorter connection route may be possible. At this stage, given that optionality remains as to the form and location of infrastructure, the Inspectorate is not able to agree to scope this matter out. The ES should include an assessment. If optionality for the above ground infrastructure is removed prior to DCO application, the Inspectorate is content for it to be scoped out where it can be demonstrated in the ES that significant effects would not occur, with evidence of agreement from relevant statutory consultation bodies.</p>
3.144	Table 18-4 and	Physical and setting effects to above and below ground	<p>The Scoping Report seeks to scope out effects to designated and non-designated above ground heritage assets and below ground heritage assets during decommissioning on the basis that impacts would be short term and of lesser significance than construction or</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
	paragraph 18.10.4	heritage assets (decommissioning)	<p>operation (for above ground assets) and the main impact would occur during construction (for below ground assets).</p> <p>On the basis that below ground infrastructure is proposed to be retained in situ at the end of operational life (Section 2.8 of the Scoping Report) the Inspectorate agrees that physical effects to below ground assets during decommissioning can be scoped out of assessment.</p> <p>For the reasons set out at ID 3.13.2 of this Opinion, the Inspectorate cannot exclude the possibility of significant effects to the setting of above ground assets during decommissioning and this matter should be assessed in the ES.</p>
3.145	Paragraph 18.12.1	Transboundary effects	<p>The Inspectorate is not able to agree to scope this matter out until it has undertaken its own transboundary screening. See the Inspectorate's comments at ID 2.1.7 of this Opinion.</p>
3.146	n/a	Physical impacts to above ground heritage assets (construction)	<p>The Scoping Report does not indicate if there is a potential impact pathway from direct physical effects to above ground designated and non-designated heritage assets within the scoping boundary and this matter is not addressed within Table 18-4, which summarises matters proposed to be scoped in or out. The Inspectorate notes from Figure 18.1 that there are numerous listed buildings located within the scoping boundary and on both sides of the River Mersey. Chapter 17 of the Scoping Report indicates that direct impacts to terrestrial heritage assets from activity within the marine area would be assessed as part of the terrestrial archaeology and cultural heritage assessment. As the location of the built infrastructure is not yet known, the Inspectorate is not able to exclude the possibility that direct physical effects could occur and advises that this matter should be assessed in the ES where significant effects are likely, or it should otherwise explain why they would not with evidence of agreement from the relevant statutory consultation bodies.</p>

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ID	Ref	Description	Inspectorate's comments
3.147	Table 18-1	Technical guidance	The Applicant's attention is drawn to the comments of Historic England (Appendix 2 of this Scoping Opinion), which list additional technical guidance of relevance to understanding the archaeological and palaeoenvironmental remains and consideration of mitigation. The Inspectorate advises that this guidance should be used to inform the assessment.
3.148	Paragraphs 18.1.3 and 18.3.1 to 18.3.2	Marine and terrestrial study areas	<p>Paragraph 18.1.3 states that this aspect will assess effects on assets located landwards of mean low water level and setting effects on terrestrial assets from components of the Proposed Development located below mean high water level (e.g. the proposed tidal barrage). It is stated that effects on assets below mean high water level would be addressed in the marine cultural heritage and archaeology chapter. Cross reference to the marine archaeology and cultural heritage chapter is proposed to avoid duplication.</p> <p>The Inspectorate advises that the ES should make clear where the delineation between the terrestrial and marine assessment has been drawn and that illustration of this on a figure(s) would aid understanding. The Inspectorate is content that cross-referencing can be used to avoid duplication provided this is clearly set out in the ES.</p> <p>Please refer to the Inspectorate's comments at ID 3.13.5 of this Opinion regarding receptors in the intertidal zone.</p>
3.149	Paragraph 18.3.3	Study area	A study area of 500m from the scoping boundary is proposed. Given the nature of the Proposed Development, the Inspectorate agrees that assets beyond this distance are unlikely to be significantly affected. However, the Inspectorate advises that the study area should also include an appropriate buffer around the construction traffic affected road network once this is established, where significant effects are likely to occur. In addition, if overhead line is included within the DCO application, the study area for setting effects to above ground heritage assets may also need to extend beyond 500m for this component, given the potential visibility of such infrastructure. A zone of theoretical visibility (ZTV) could be used to inform the final study area for this component.
3.14.10	Paragraph 18.5.4	Assessment methodology	It is unclear from the information presented if it is proposed to undertake site survey to inform the understanding of the cultural heritage baseline, as the Scoping Report refers

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ID	Ref	Description	Inspectorate's comments
			only to desk-based studies and analysis. The Inspectorate advises that effort should be made to agree the need for, and scope of, survey work including the selection of viewpoints to be assessed with relevant statutory consultation bodies.
3.14.11	Paragraphs 18.6.5 and 18.7.3	Designated heritage assets – world heritage sites (WHS)	The Scoping Report states that there are no WHS within the study area. The Inspectorate notes that Figure 2.4 shows the former Liverpool Maritime Mercantile City WHS and the proposed Birkenhead Park WHS are both located within the scoping boundary. Whilst it is noted that these assets are not currently formally designated, and other heritage designations within the sites (e.g. listed buildings and conservations areas) would be individually described and considered in the assessment, the Inspectorate advises that the ES includes a description of the WHS status at point of DCO application, together with any additional attributes such as group value that are of relevance to assigning value to the receptors. Effort should be made to agree the approach to assessment with relevant statutory consultation bodies and this should be evidenced within the ES.
3.14.12	Paragraph 18.7.3	Shoreton Hall	The Applicant's attention is drawn to the comments of Historic England (Appendix 2 of this Scoping Opinion) regarding the designation of the scheduled monument and Grade II* listed building, which would not be affected by removal from Historic England's Heritage at Risk Register. These receptors should be assigned value in the assessment accordingly.
3.14.13	Paragraph 18.13.1	Baseline data	It is proposed to establish the archaeological baseline through a desk-based assessment and use of the desk-based sources listed in Table 18-5. The Inspectorate advises that the assessment must be undertaken from a robust baseline and that consideration should be given to the need for site investigation including geophysical survey and trial trenching to inform the EIA. This should be informed by the conclusions of the desk-based assessment. Effort should be made to agree the scope of the desk-based assessment and any subsequent survey work with relevant consultation bodies and this should be evidenced in the ES. The Applicant's attention is drawn to the comments of Historic England and Wirral Council (Appendix 2 of this Scoping Opinion) in this regard.
3.14.14	Table 18-3	Embedded mitigation –	Proposed embedded measure 18-1 is a commitment to eliminate hazards to known heritage assets through safe work systems, physical avoidance and barriers, including

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ID	Ref	Description	Inspectorate's comments
		significant undesignated assets	'undesignated significant historic buildings and areas of archaeological remains.' The ES should define is meant by 'significant' in this context. Effort should be made to agree the approach with relevant consultation bodies.
3.14.15	Table 18-3	Embedded mitigation – detailed design	The Inspectorate notes that the information presented in Table 18-3 in respect of ID 18-2 varies slightly from the information in Appendix 3.1. For the avoidance of doubt, the Inspectorate understands that there will be a requirement in the dDCO relating to approval of the detailed design of the built infrastructure, including form, massing, materiality and colour, which will include input from heritage specialists.
3.14.16	Table 18-3	Embedded mitigation – historic hedgerow	The Inspectorate notes that the information presented in Table 18-3 in respect of OM1 and OM5 varies slightly from the information in Appendix 3.1. It should be clear how the location of any historic hedgerow within the study area has been established; consideration should be given to the need for baseline survey in this regard. The embedded measure to avoid historic hedgerow should be demonstrably secured in the DCO, i.e. through the outline CEMP.
3.14.17	Table 18-4	Setting effects to above ground assets (operation)	A limit of 150m from the Proposed Development is proposed for the assessment of setting effects. The Inspectorate advises that the limit should not be established using an arbitrary distance but should be based on the predicted Zol, which should be informed by the ZTV (as shown in Figure 25.1 of the Scoping Report). Effort should be made to agree the receptors scoped into this assessment with relevant consultation bodies.
3.14.18	Table 18-6	Value of Grade II listed buildings	The Applicant's attention is drawn to the comments of Historic England (Appendix 2 of this Scoping Opinion) about the value assigned to Grade II listed buildings considered in the assessment. A high value should be assigned to these assets, or justification, by reference to relevant guidance and agreement with relevant consultation bodies, should be provided as to why a medium value is appropriate.
3.14.19	Paragraph 18.13.14	Policy tests	The Applicant is referred to the Inspectorate's comments at ID 3.12.13 of this Opinion, which apply equally to this matter.

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ID	Ref	Description	Inspectorate's comments
3.1420	n/a	Receptors and baseline data	The Scoping Report includes a broad description of heritage assets (archaeological and above ground) within the study area but does not identify individual receptors to be scoped into the assessment or present information about their significance. The Inspectorate advises that this information must be presented in the ES.

3.15 Water Resources and Flood Risk

(Scoping Report Section 19)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.15.1	Paragraph 19.11.4	Potential port facilities / key infrastructure areas – operation, maintenance and decommissioning	The Applicant seeks to scope out effects in relation to potential port facilities / key infrastructure areas for the phases identified on the basis that they will only be used during construction, so will have no impact during other phases of development. The Inspectorate agrees that this matter can be scoped out of the assessment.

ID	Ref	Description	Inspectorate's comments
3.152	Table 19-6	Receptors – Flood Risk	The assessment of the Proposed Development on flood risk should include an assessment of effects on the Liverpool South Docks, the river wall and river entrances into the docks.
3.153	Table 19-6	Receptors – Fiddlers Ferry Marina	The assessment should include effects in relation to the operation of the Fiddlers Ferry Marina, which may be affected due to ability of the lock to be used between the marina and the River Mersey.
3.154	Table 19-6	Receptors – Sankey Canal	The assessment of the Proposed Development should include the Sankey Canal. Alteration to salinity levels or the tides could impact the existing small pumping window required to maintain water levels.
3.155	Table 19-6	Erosion of upstream banks	The ES should include effects relating to the erosion of the upstream banks, through higher water velocity as a result of flush rate during operation, including the potential for contamination.

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ID	Ref	Description	Inspectorate's comments
3.15.6	Table 19-6	Receptors – Existing drainage systems	The ES should include an assessment of the hydraulic performance of existing drainage systems, where affected due to potential changes in tides.
3.15.7	Table 19-6	Abstraction	The ES should include an assessment of businesses which abstract water from the River Mersey within Warrington, as they may be adversely affected due to potential changes to tide, salinity, water quality and water availability.
3.15.8	Table 19-6	Dewatering	The assessment of effects from dewatering should also consider groundwater source protection zones (SPZ) as potential receptors.
3.15.9	Section 19-3	Study area	The study area within the ES should be extended to include the upper tidal limit upstream of each identified tributary and drain.
3.15.10	n/a	Water quality effects	<p>An assessment of effects on water quality should be provided within the ES, which should take account of, but not be limited to, the following impacts during construction:</p> <ul style="list-style-type: none"> • effects from any surface water runoff associated with exposed soils or stockpiles. <p>and in operation, the following effects on water quality:</p> <ul style="list-style-type: none"> • effects from operational fire-fighting equipment; • effects from the cooling water system; • effects from changes to the tidal range associated with the operation of the barrage; • effects from operational dredging; and • discharge of surface water drainage directly into the Mersey Estuary.

3.16 Land Use Tourism and Recreation

(Scoping Report Section 20)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.16.1	Table 20-8	<p>Disruption to:</p> <ul style="list-style-type: none"> -private properties and housing businesses or development <p>due to the potential for proximate location of construction works areas, and movement of construction vehicle traffic</p>	<p>The Scoping Report seeks to scope out effects in relation to this matter on the basis that whilst there is the potential for slight disruption to residents as a result of delays due to construction traffic or changes to property access, the embedded design measures will ensure that access to residential properties will be maintained throughout the construction period. In addition, any potential amenity effects will be assessed as part of the Health Impact Assessment (HIA) for the Project, and in Chapter 21: Air Quality, Chapter 22: Onshore Noise and Vibration, and Chapter 25: Seascape, Landscape and Visual. Significant effects are therefore not anticipated.</p> <p>The Inspectorate agrees that this matter can be scoped out of the assessment, subject to the appropriate design and control measures being secured and implemented.</p>
3.16.2	Table 20-8	<p>Disruption to agricultural land holdings, due to the potential for temporary or permanent land take for construction works areas</p>	<p>The Applicant seeks to scope out this matter on the basis that it is envisaged that access to agricultural land holdings will be maintained, due to the contained nature of the construction works and connection points being within existing National Grid substations. No loss of agricultural land is anticipated that would give rise to significant effects.</p> <p>The Inspectorate notes that the majority of the land is classified as urban or non-agricultural (Scoping Report Chapter 23) but that there is also reference to some areas of the grid connection area as agricultural land. As such, the Inspectorate does not agree that</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			this matter can be scoped out of the assessment until further evidence of the potential for disruption to agricultural land holdings is established.
3.163	Table 20-8	Disruption to community facilities, open space and recreational facilities land during construction, due to the potential for proximate location of construction works areas, and movement of construction vehicle traffic	<p>The Applicant seeks to scope out this matter on the basis that, whilst there is the potential for slight disruption to community facilities, open space and recreational facilities as a result of changes to access, embedded design measures will ensure that access for people using these resources will be maintained. No loss of community or recreational facilities or open space is anticipated. In addition, amenity effects will be assessed as part of the Health Impact Assessment (HIA) for the Project, and in Chapter 21: Air Quality, Chapter 22: Onshore Noise and Vibration, and Chapter 25: Seascape, Landscape and Visual. Significant effects are therefore not anticipated.</p> <p>The Inspectorate is content with this approach subject to the appropriate design and control measures being secured and implemented and defined in the ES.</p>
3.164	Table 20-8	Disruption for WCH using PRoW, due to the potential for proximate location of construction works areas, and movement of construction vehicle traffic	<p>The Applicant seeks to scope out effects in relation to all routes with the exception the King Charles III England Coast Path (construction phase) and the pedestrian route across the Tidal Barrage (operation and maintenance phases), on the basis that whilst there is the potential for slight disruption to walking, cycling and horse riding routes, the embedded design measures will ensure that access for users will be maintained throughout the construction period where possible, or a suitable diversionary route implemented. Significant effects are therefore not anticipated.</p> <p>The Inspectorate is content with this approach subject to the appropriate design and diversion measures being secured and implemented and defined in the ES.</p>
3.165	Table 20-8	Disruption to users of tourist facilities,	The Applicant seeks to scope out effects in relation to visitor attractions with the exception of tourist attractions in proximity to the tidal barrage (construction phase) and the tidal

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
		due to the potential for proximate location of construction works areas, and movement of construction vehicle traffic	barrage visitor centre and associated facilities (operation and maintenance phases) on the basis that disruption to users of tourist facilities is not expected to give rise to significant adverse effects. The Inspectorate is content with this approach on the basis of the explanation provided.

ID	Ref	Description	Inspectorate's comments
3.166	n/a	n/a	n/a

3.17 Air Quality

(Scoping Report Section 21)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.17.1	Paragraphs 21.1.3 and 21.10.4	Operational phase impacts	<p>The Scoping Report seeks to scope out all operational phase impacts based on none being anticipated due to the nature of the Proposed Development. It is stated that impacts would be considered if during the assessment a likelihood of significant effects from operation is identified.</p> <p>Based on the description of the Proposed Development in Chapter 2 of the Scoping Report the Inspectorate agrees that there are unlikely to be any significant air quality effects from the operation of the built infrastructure forming the Proposed Development and this matter can be scoped out.</p> <p>Chapter 2 of the Scoping Report indicates that car parks would be installed for the operation phase but the number of spaces is not specified. The ES should provide confirmation of the maximum number of car parking spaces sought and the predicted daily traffic movements during operation. Where traffic movements exceed the screening thresholds in the Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM), an assessment should be included in the ES.</p> <p>The Inspectorate notes that Table 2-6 of the Scoping Report describes potential for major maintenance of various components some as frequently as every 12 to 20 or 15 years. It is unclear if such activity could result in dust and/ or additional traffic movements relative to day-to-day operation. The ES should include an assessment of likely significant air quality effects arising from major operational maintenance or otherwise explain, with supporting evidence, why these are not likely to occur.</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.172	Paragraph 21.12.1	Transboundary effects	The Inspectorate is not able to agree to scope this matter out until it has undertaken its own transboundary screening. See the Inspectorate's comments at ID 2.1.7 of this Opinion.

ID	Ref	Description	Inspectorate's comments
3.173	Paragraph 21.3.1 and Figure 21.1	Study area for construction road traffic	<p>The Scoping Report describes a study area extending 2km from the scoping boundary, which it states has been determined based on constraints and professional judgment about where impacts may occur but might need to be revised following more detailed design.</p> <p>The ES should confirm the final study area used and explain how it has been selected by reference to relevant guidance. It should be informed by the proposed construction road traffic routeing or, where this is not yet finalised, based on a worst case. Any assumptions made in establishing a worst case, for example location of port facilities to be used or the split between road and vessel movements, should be clearly explained.</p>
3.174	Paragraph 21.3.5	Emissions from marine vessels	The Scoping Report states that the proposed study area for marine vessel emissions is receptors within 200m of vessel routes and port facilities. The ES should include a supporting figure illustrating the final study area and receptors included in the assessment. It should explain the basis on which this distance has been selected including reference to relevant guidance.
3.175	Paragraph 21.5.4	Screening of construction traffic	In applying the EPUK and IAQM guidance to determine the need for a quantitative assessment, the correct thresholds must be applied dependent on if the proposed routes are in air quality management areas (AQMA) (noting that a large extent of the scoping boundary is within the Liverpool City AQMA).

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ID	Ref	Description	Inspectorate's comments
3.176	Paragraphs 21.6.8 and 21.6.9	Clean air plans	<p>It is stated that Sefton Council is developing a clean air plan, which may lead to the implementation of a heavy goods vehicle (HGV) clean air charging zone, including roads within its AQMAs. Liverpool City Council has a Clean Air Plan, which identifies nine areas where effort to reduce roadside nitrogen dioxide (NO₂) is being made.</p> <p>The ES should include information about these initiatives within the baseline description, including how they might influence the future baseline for air quality in the study area. It should explain if the expected plan outcomes have been considered in the assessment work (if at all) and confirm if any additional measures, i.e. routeing construction traffic to avoid roads within the plan areas, are needed to mitigate potential effects.</p>
3.177	Table 21-6	Construction logistics plan	<p>An embedded measure to consolidate construction deliveries and avoid local pollution hotspots including AQMAs and Clean Air Plan areas is proposed in for the of a construction logistics plan. It is not stated if the plan would form part of the DCO application. The Inspectorate advises that if the assessment conclusions are reliant on these measures, then they should be clearly described in the ES. An outline of the construction logistics plan should be provided with the DCO application.</p>
3.178	Table 21-7 and Figure 21.1	Receptors	<p>Table 21-7 provides a broad description of receptor types to be considered in the assessment, with Figure 21.1 showing the location of designated ecological sites. The ES should describe all receptors scoped into the assessment and illustrate their location on a supporting figure(s). This should include consideration of potential impacts to above ground heritage assets and the dock system.</p> <p>The Applicant is also directed to the response from Natural England, which identifies the sites that could be affected by air quality effects.</p>
3.179	n/a	Decommissioning phase impacts	<p>Paragraph 21.1.4 states that impacts during decommissioning would be broadly similar to construction (scoped in) but Table 21-7 does not include reference to decommissioning phase impacts forming part of the ES scope. For the avoidance of doubt, the Inspectorate advises that an assessment of decommissioning impacts should be included in the ES or</p>

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ID	Ref	Description	Inspectorate's comments
			<p>an explanation as to why these are not likely to be significant should be provided, with evidence of agreement from relevant statutory consultation bodies.</p> <p>Please also refer to the Inspectorate's comments at IDs 2.0.9 to 2.0.11 of this Scoping Opinion.</p>

3.18 Onshore Noise and Vibration

(Scoping Report Section 22)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.181	Paragraph 22.5.5	Baseline vibration survey	<p>The Scoping Report seeks to scope out a baseline vibration survey on the basis that sensitive areas are some distance from the Proposed Development and vibration levels significantly reduce with distance. It is stated that this would be kept under review.</p> <p>The Inspectorate agrees that a baseline vibration survey is not required but advises that the assessment of vibration impacts should be made from an assumed vibration baseline of negligible or zero.</p>
3.182	Table 22-3	Construction traffic vibration effects to human receptors	<p>The Scoping Report seeks to scope out this matter on the basis that any vibration generated by construction traffic would be similar to vibration caused by other similar vehicles that use the route, and as such significant effects are not likely to occur.</p> <p>The Inspectorate does not consider that this is an acceptable basis to scope this matter out, given that the Proposed Development will result in additional traffic during construction. Construction vehicle routes are currently unknown and therefore so is the distance to sensitive receptors. In addition, the number and type of vehicles have not yet been confirmed. In the absence of this detail, the Inspectorate does not agree to scope out construction traffic vibration for the construction phase. An assessment should be included in the ES or an explanation as to why effects are not likely to be significant should be provided, with evidence of agreement from relevant consultation bodies</p>
3.183	Table 22-3	Operational vibration	<p>The Scoping Report seeks to scope out this matter as there are no proposed sources of vibration during operation. The Inspectorate agrees that operational vibration from day to day operation of the Proposed Development is unlikely to give rise to significant effects based on the description presented in Chapter 2 of the Scoping Report. However, Table 2-6 of the Scoping Report describes potential for major maintenance of various components</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			some as frequently as every 12 to 20 or 15 years. It is unclear if such activity could result in vibration impacts. The ES should include an assessment of likely significant effects arising from major operational maintenance or otherwise explain, with supporting evidence, why these are not likely to occur.
3.184	Paragraph 22.12.1	Transboundary effects	The Inspectorate is not able to agree to scope this matter out until it has undertaken its own transboundary screening. See the Inspectorate's comments at ID 2.1.7 of this Opinion.

ID	Ref	Description	Inspectorate's comments
3.185	Paragraph 22.3.2	Operational noise from dredging vessels	A study area of 200m from the banks of the River Mersey is proposed based on experience of developments involving dredging. The ES should set out how experience of other development has informed the determination that this is an appropriate study area for potential noise effects.
3.186	Paragraph 22.5.7	Evening and nighttime construction activity	<p>It is proposed to determine appropriate construction noise level thresholds during the nighttime at the tidal barrage construction location only. No reference is made to evening thresholds. The Inspectorate notes that earlier sections of the Scoping Report (e.g. paragraphs 2.5.33 to 2.5.35) describe typical construction hours as 0600 to 2000 on weekdays and 0600 to 1800 on weekends and that these could extend overnight or to 24 hours for certain activities and are not restricted to specific locations.</p> <p>The ES should identify appropriate noise level thresholds for each period (i.e. daytime, evening and nighttime) during which it is proposed that construction activity could occur. If flexibility is sought within the DCO application for construction hours to apply across the Order Limits then this should be reflected in the assessment, which should include consideration of noise generating activity in locations other than the tidal barrage.</p>

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ID	Ref	Description	Inspectorate's comments
3.18.7	Paragraph 22.5.9	Construction vibration assessment	The Scoping Report states that for a sample of construction activities that have potential to produce vibration, impact will be determined at a series of setback distances within the study area. This would include piling associated with the proposed tidal barrage and any onshore elements of piling. For the avoidance of doubt, where flexibility is sought within the DCO application about construction/ vibration methods, the assessment must consider all vibration methods that could be used and identify mitigation where relevant. The assessment should consider the potential to affect the structural integrity of assets associated with Liverpool Dock and identify any mitigation required. The Applicant's attention is drawn to the comments of the Canal and River Trust (Appendix 2 of this Scoping Opinion) in this regard.
3.18.8	Table 22-3	Operational road traffic noise	This matter is proposed to be scoped into the ES but kept under review as more detail about the operational phase traffic flows becomes available. The Inspectorate agrees to this approach but advises that if the matter is ultimately scoped out, the ES must describe the basis for this decision including reference to relevant guidance and evidence of agreement with relevant consultation bodies. It must be clear that the traffic flows used in the screening represent the worst case for operational phase road traffic movement.
3.18.9	n/a	Baseline noise and ecological receptors	The Scoping Report does not refer to ecological receptors. Appropriate cross reference to the relevant ecological assessments should be made to ensure adequate information to support those assessments is provided.
3.18.10	n/a	Noise from vessel movements	The Scoping Report does not indicate if there could be an impact pathway to terrestrial receptors (human and ecological) from vessel noise during construction and decommissioning, or operation other than from dredging. This should be clarified in the ES and an assessment should be provided where significant effects are likely to occur.

3.19 Geology and Ground Conditions

(Scoping Report Chapter 23)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.19.1	Paragraph 23.9.1	Land instability (all phases)	<p>The Scoping Report states that land instability would be considered in the geotechnical design of the Proposed Development and embedded mitigation, and that it is not considered as part of this assessment. The Inspectorate notes that Table 15-6 (relating to Major Accidents and Disasters) states that the Proposed Development is not in a location at risk of landslides or sink holes, nor is it in a coal mining reporting area. However, paragraph 2.3.17 states that the Proposed Development is located within an area covered by the Great Ormes Head to Scotland SMP and that for some units there could be a requirement for adaptation to coastal changes in addition to risks from ground instability.</p> <p>In the absence of information about the geotechnical design and likely effectiveness of the proposed embedded mitigation, the Inspectorate is not able to agree to scope this matter out of further assessment. The ES should include an assessment of potential effects from land instability, including any associated with coastal change, and describe the embedded mitigation proposed, and confirm how it is proposed to be secured. The assessment should include consideration of Liverpool Dock as a receptor.</p>
3.19.2	Table 23-11	Sterilisation of mineral resources (construction and operation)	<p>The Scoping Report seeks to scope this matter out based on there being limited mineral resources in Liverpool and the Wirral and there being no mineral safeguarding areas (MSA) within the scoping boundary. On that basis, the Inspectorate agrees that there are unlikely to be significant effects and this matter can be scoped out of the assessment.</p>
3.19.3	Table 23-11	Construction phase impact pathways	<p>Table 23-11 indicates that the following pathways would be assessed during the construction phase: potential to encounter contaminated material or mobilise and create preferential pathways to controlled water and ecological receptors; development in an area</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
		during operation (operation)	<p>of UXO risk; and, development in proximity to local geological sites (LGS). It does not specifically seek to scope these pathways out for the operational phase, but the Inspectorate assumes for the purposes of this Opinion that it is not proposed to assess these pathways during operation.</p> <p>Provided that the construction phase assessments consider any potential permanent effects and/ or identify mitigation to avoid such effects, the Inspectorate is content that development in an area of UXO risk and in proximity to LGS would not also need to be assessed for the operational phase. However, the Inspectorate is not able to agree that potential to mobilise and create preferential pathways can be scoped out; please see ID 3.19.14 of this Opinion for the Inspectorate's comments on this matter.</p>
3.194	Paragraph 23.12.3	Cumulative effects on human health and buildings from contaminative sources (operation)	The Inspectorate agrees that this matter can be scoped out of further assessment given that the impacts would be restricted to receptors associated with the Proposed Development, which are proposed to be assessed in the ES.
3.195	Paragraph 23.12.4	Cumulative effects to LGS in the Grid Connection Development Area	The Scoping Report seeks to scope this matter out based on existing information indicating that effects from the Proposed Development alone would be slight. The Inspectorate notes that this impact pathway is scoped in for the Proposed Development alone and that paragraph 23.6.99 of the Scoping Report states that there are 27 regionally important geological sites (i.e. LGS) in the Liverpool Grid Connection Development Area but locations are not currently known. As such, it is not clear that likely significant effects can be excluded, and the Inspectorate is not able to agree to scope this matter out at this stage. The ES should include an assessment or otherwise explain, with supporting evidence, why significant cumulative effects would not occur.

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.196	Paragraph 23.13.1	Transboundary effects to receptors other than controlled waters	The Inspectorate is not able to agree to scope this matter out until it has undertaken its own transboundary screening. See the Inspectorate's comments at ID 2.1.7 of this Opinion.

ID	Ref	Description	Inspectorate's comments
3.197	Paragraph 23.3.1	Study area	A study area of 250m from the scoping boundary is proposed for controlled waters' receptors and 50m for all other receptors. No justification is presented for the distances. The Inspectorate advises that the study area should be informed by the likely impact pathways including potential for hydrological and hydrogeological connectivity. The ES should explain how the final study area was selected by reference to relevant guidance.
3.198	Paragraph 23.5.1 and Table 23-11	Decommissioning phase impacts	<p>Paragraph 23.5.1 states that the overarching methodology in Chapter 3 of the Scoping Report would be used to assess likely significant effects from all phases of the Proposed Development, including during decommissioning. However, Table 23-11 does not include reference to decommissioning phase effects. For the avoidance of doubt, the Inspectorate advises that an assessment of decommissioning impacts should be included in the ES or an explanation as to why these are not likely to be significant should be provided, with evidence of agreement from relevant statutory consultation bodies.</p> <p>Please refer to the Inspectorate's comments at IDs 2.0.9 to 2.0.11 of this Scoping Opinion. The Applicant's attention is also drawn to the EA's comments (Appendix 2 of this Scoping Opinion) in this regard.</p>
3.199	Paragraphs 23.5.4 and 23.5.7, Table 23-10	Baseline surveys	The Scoping Report states that it is anticipated that intrusive ground investigation may be undertaken and that this would target key identified sources of contamination. It also states that an agricultural land classification (ALC) survey would be carried out and Table 23-10 states that there would be a commitment in the DCO application to complete them along

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ID	Ref	Description	Inspectorate's comments
	and Figures 23.5 and 23.6		<p>the grid connection route. The timing of the proposed survey work is not clear from the information presented.</p> <p>The Inspectorate advises that the ES assessments must be undertaken using robust baseline data. Effort should be made to agree with relevant consultation bodies the scope of ground investigation and ALC survey to support the ES assessments. Figures 23.5 and 23.6 show the expected location of ALC Grade 2, 3a and 3b land. There is no ALC Grade 2, 3a or 3b land in the Tidal Barrage Development Area and the Inspectorate agrees that this location does not require ALC survey. The ES should include justification if ALC survey of the grid connection route is restricted to areas of permanent land take. Where ALC survey is carried out, the Applicant should ensure that enough auger locations are used across the site to accurately inform the assessment in line with relevant guidance and standards or justify why its proposed approach is robust, seeking agreement from relevant consultation bodies. The Applicant's attention is drawn to the comments of Natural England (Appendix 2 of this Scoping Opinion) in this regard.</p>
3.19.10	Paragraphs 23.6.39, 23.6.74 and 23.6.103	UXO risk	<p>The Tidal Barrage Development Area and Grid Connection Development Areas are stated to have moderate to high risk of UXO based on publicly available UXO risk maps. Table 23-9 indicates that the maps provide coverage of circa 60% of the Grid Connection Development Area and circa 5% of the Tidal Barrage Development Area where intersecting the shore. The Inspectorate advises that the assessment of UXO must be undertaken using robust baseline data; where there are gaps in public information, consideration should be given to the need for site survey and the ES should explain any assumptions made in establishing the UXO baseline.</p>
3.19.11	Section 23.7	Initial conceptual site model	<p>In addition to the receptors and pathways identified in the Scoping Report, the Inspectorate advises that the following should be considered in the assessment:</p> <ul style="list-style-type: none"> • Receptors: all licenced and unlicensed groundwater abstractions; and • Pathways: controlled waters – risk of vertical migration of mobile contaminants into the Principal Aquifer, risk of lateral migration within aquifers to groundwater abstractions.

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ID	Ref	Description	Inspectorate's comments
			<p>The Inspectorate notes the EA's advice regarding the classification of initial risk to controlled waters, which it considers should be high rather than moderate given then site is underlaid by a Principal Aquifer which partially falls within SPZ 1, 2 and 3. The Inspectorate advises that controlled waters should be classified as high risk in the assessment, or the ES should otherwise explain (with evidence of agreement from relevant consultation bodies) why a moderate risk is appropriate.</p>
3.19.12	Table 23-10	Best and most versatile (BMV) land and soil management	<p>In addition to soil management measures, the ES should explain how the design of the Proposed Development has considered BMV land in order to avoid, prevent, or reduce any potential likely significant effects on BMV land or explain why this is not feasible. Consideration should be given to the use of BMV land in the Applicant's discussion of alternatives. The ES should quantify the amount of agricultural land that would be temporarily and permanently lost because of the Proposed Development by ALC grade, (with reference to an accompanying map/s depicting the grades).</p>
3.19.13	Table 23-10	Embedded measures	<p>Table 23-10, ID 23-4 sets out a commitment to include a remediation strategy within the Outline CEMP if further assessment identifies plausible contaminant linkages. In addition, the Inspectorate advises that the Outline CEMP should include a strategy for unexpected contamination. The Inspectorate recommends that a foundation works risk assessment is submitted as part of the ES if deep and/ or piled foundations overlying principal or secondary A aquifers are required.</p>
3.19.14	n/a	Receptors	<p>In addition to the receptors identified in Table 23-11 of the Scoping Report, the Inspectorate advises that the following receptors should also be considered in the assessment as relevant to the impact pathway:</p> <ul style="list-style-type: none"> • principal and secondary aquifers; • SPZ 1, 2 and 3; • licenced and unlicenced groundwater abstractions; and • surface waters.

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ID	Ref	Description	Inspectorate's comments
3.19.15	n/a	Impact pathways	<p>In addition to the pathways identified in Table 23-11 of the Scoping Report, the Inspectorate advises that the following should also be considered in the assessment:</p> <ul style="list-style-type: none"> • effects resulting from spills and leaks during construction and decommissioning; • effects from mobilisation of contaminants because of changes in groundwater levels and flow characteristics due to the tidal dynamic change during operation; and • effects relating to raised water levels upstream of the proposed tidal barrage causing an increase in drainage base of surface and groundwater features, such as saline intrusion and effluent discharge. <p>The Applicant's attention is drawn to the comments of the EA (Appendix 2 of this Scoping Opinion).</p>

3.20 Terrestrial Traffic and Transport

(Scoping Report Section 24)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3201	Paragraph 24.10.4	Traffic impacts beyond the study area - construction	Section 24.3 of the Scoping Report states that the study area has not yet been defined due to the uncertainty regarding the options available. The Inspectorate cannot agree to scope this matter out at this stage as it cannot confirm that there will not be any likely significant effects to receptors outside of the study area before it has been defined. The Applicant should consider the impacts on the Strategic Road Network (SRN) and agree the study area with the relevant consultation bodies.
3202	Paragraph 24.10.5	Traffic impacts - operation	Paragraph 2.4.22 states that the workforce could include an additional workforce as part of ancillary buildings, but the extent of the ancillary facilities has not yet been defined. The Inspectorate cannot agree to scope this matter out until further details are available regarding the types of ancillary facilities proposed, including whether these facilities would generate additional visitor traffic in addition to the workforce. The Applicant is advised to provide as much detail as possible within the ES to confirm the worst-case scenario of these facilities to justify whether this matter should be included within the assessment.
3203	Paragraph 24.10.6	Traffic impacts – grid connection decommissioning	The Scoping Report contains limited information with regards to decommissioning activities. The Inspectorate is of the view that significant impacts on terrestrial traffic and transport during decommissioning cannot be scoped out of the assessment at this stage.

ID	Ref	Description	Inspectorate's comments
3204	Paragraph 24.4.1	Consultation	The Scoping Report states that consultation with Liverpool City Council, Wirral Council, and National Highways will occur. The Inspectorate would also encourage the Applicant to

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ID	Ref	Description	Inspectorate's comments
			consult with Mersey Travel and the relevant highways department within the Liverpool Combined Authority.
3205	Section 24.8 Table 24-5	Strategic Road Network (SRN)	The scope of the assessment should include effects on all relevant routes on the SRN in addition to the local highway network.
3206	Table 24.9.3	Abnormal loads	The Scoping Report states that the majority of construction materials transportation will be delivered via marine methods. Should there be a possibility that some abnormal loads may need to be transported via road, then the ES should include this in the assessment.
3207	Table 24.5	Navigation	The Scoping Report notes potential for the construction of the Proposed Development to affect access to local ports and that cross references would be made to the assessment on shipping and navigation. The Inspectorate considers that effects on local ports and effects on the navigational environment that could also be altered as a result of terrestrial traffic and transport during construction should be considered within the assessment of effects presented in Scoping Report Table 24-5.
3208	n/a	Rail infrastructure	The Scoping Report discusses rail infrastructure at various points throughout. The ES should assess potential impacts to rail infrastructure from the Proposed Development, including in relation to operational rail safety and use throughout construction and operation.

3.21 Seascape Landscape and Visual Effects

(Scoping Report Section 25)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
321.1	Paragraph 25.10.8	Receptors beyond 5km – all phases	On the basis that Figure 25.1 is likely to contain an error in relation to the buffer (see ID 3.21.7), the Inspectorate is satisfied that any likely significant effects on receptors will be within 5km of the tidal barrage development area. However, should the study area reflect Figure 25.1, then the Inspectorate would request a wider study area to be considered in order to include additional receptors.
321.2	Paragraph 25.10.9	Grid connection corridor – operation and decommissioning	<p>The Scoping Report seeks to scope this matter out, at this stage, the precise route of the onshore cable corridor has not been finalised and the Applicant states at paragraph 25.8.1 that the underground cable will be replaced at least once during operation, with limited details regarding the extent of these works. As such, it is considered that the potential effects such as change in appearance of land in the onshore cable corridor and ongoing maintenance activities are not yet known. It is also unknown how effective restoration proposals are likely to be. In the absence of information such as evidence demonstrating clear agreement with relevant statutory bodies, the Inspectorate is not in a position to agree to scope this matter from the assessment. Accordingly, the ES should include an assessment of these matters, or the information referred to demonstrating agreement with the relevant consultation bodies and the absence of an LSE.</p> <p>The Scoping Report contains limited information with regards to decommissioning activities; the Inspectorate is of the view that significant impacts on the grid connection corridor during decommissioning cannot be scoped out of the assessment at this stage.</p>
321.3	Paragraph 25.10.10	National Character Areas (NCAs) – all phases	The Scoping Report states that the NCAs are too spatially extensive to include within the assessment. The Inspectorate cannot agree to scope this matter out as the Applicant has not provided sufficient information to justify this omission, nor any agreement with the relevant consultation bodies. Accordingly, the ES should include an assessment of this

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			matter or evidence demonstrating agreement with the relevant consultation bodies and the absence of a likely significant effect.
321.4	Paragraph 25.10.10	Visual receptors along main roads and other transport networks – all phases	The Scoping Report seeks to scope out visual receptors along main roads and other transport networks on the basis that they are typically low sensitivity receptors. There is limited detail, nor figures, depicting the extent of the main roads and other transport routes. As there are limited details regarding the specific scope to be omitted from the assessment, the Inspectorate is unable to agree to scope this matter out at this stage. The Applicant should seek agreement with the relevant consultation bodies on the proposed scope and which road users should be included within the assessment, considering any transport routes to the roads and routes that are visible to the scheme.
321.5	Paragraph 25.10.10	Visual receptors from business parks and places of work (e.g. workers associated with the docks) – all phases	The Scoping Report seeks to scope out visual receptors from business parks and places of work on the basis that they are lower sensitivity receptors. The Inspectorate agrees with this proposed approach and is content to scope this matter out.

ID	Ref	Description	Inspectorate's comments
321.6	Paragraph 25.4.1	Consultation	The ES should detail all Local Planning Authorities (LPAs) that have been consulted regarding this aspect, including details of the feedback and how this has or has not been incorporated into the Proposed Development/ ES.
321.7	Paragraph 25.1.2	Study area	The study area presented in ES Figure 25.1 seems to depict a 5km boundary from the centre of the tidal barrage development rather than taking the 5km from the outer limit of the red line boundary. It would be expected for this study area to be 5km from the tidal barrage boundary, which would include more receptors that are identified as being

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ID	Ref	Description	Inspectorate's comments
			theoretically visible. The study area should be discussed and agreed with the relevant consultation bodies.
321.8	n/a	Receptors	The Liverpool South Docks, Leeds and Liverpool Canal and Stanley Warehouse complex and the Lock Flight should be considered as receptors for the visual impact assessment. Appropriate representative viewpoints for these features should be agreed with the relevant consultation bodies.

3.22 Infrastructure and Other Marine Users

(Scoping Report Section 26)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3221	Table 26-6	Obstruction to offshore renewable energy projects – all phases	The Scoping Report identifies that the offshore renewable projects are located outside of the scoping boundary and therefore seeks to scope out this matter as these types of projects will not be obstructed by the Proposed Development. The Inspectorate agrees with this approach and is content to scope out this matter from the ES.
3222	Table 26-6	Obstruction to offshore carbon capture and storage (CCS) projects – operation	The Scoping Report seeks to scope this matter out on the basis that the effects are not predicted to be significant on the one CCS pipeline in the scoping boundary. Limited information has been provided on the nature of potential effects and mitigation. As such, the Inspectorate is not in a position to scope this matter out. The ES should include an assessment of impacts on CCS sites from permanent structures, where significant effects are likely to occur, or provide evidence demonstrating agreement with relevant consultation bodies that the matter can be scoped out and the absence of likely significant effects. The ES should provide details of any mitigation relied on and how it is secured through the dDCO or other legal mechanism.
3223	Table 26-6	Impacts to onshore renewable energy projects – all phases	The Scoping Report seeks to scope this matter out on the basis that the effects on onshore renewable energy projects can be mitigated via design and by avoiding the projects. Limited information has been provided on the nature of potential effects and mitigation, particularly where the cable connections could be located in the vicinity of the renewable projects. As such, the Inspectorate is not in a position to scope this matter out. The ES should include an assessment of impacts on onshore renewable energy projects, where significant effects are likely to occur, or provide evidence demonstrating agreement with relevant consultation bodies that the matter can be scoped out and the absence of LSE. The ES should provide details of any mitigation relied on and how it is secured through the dDCO or other legal mechanism.

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3224	Table 26-6	Obstruction to subsea cables - operation	The Scoping Report seeks to scope out this matter on the basis that there are no cables located within the scoping boundary and during operation there will be no further significant impacts once constructed. The Inspectorate agrees with this approach to scope this matter out of the ES.
3225	Table 26-6	Temporary obstruction to overhead lines - construction	The Scoping Report does not detail why overhead lines would be impacted less than other utilities. As there are overhead lines within the scoping boundary, the Inspectorate is not in a position to scope this matter out at this stage. The ES should include overhead lines within the assessment of the utilities during construction.
3226	Table 26-6	Obstruction to utilities – operation and decommissioning	Once operational, the Scoping Report states that the Proposed Development will not have any further impacts on utilities as they will be moved during construction. As there are limited details regarding where the utilities may be moved and whether they will be relocated or put back in place, the Inspectorate is not content to scope this matter out. The ES should include an assessment of the potential significant effects on the obstruction to utilities during operation and maintenance, as well as during decommissioning.
3227	Table 26-6	Temporary obstruction of military and defence activities – all phases	The Applicant seeks to scope out impacts on military and defence activities on the basis of the distance between the Proposed Development and known firing ranges. The Inspectorate is content to scope this matter out of the assessment due to the distance from military and defence activities.
3228	Table 26-6	Temporary obstruction of oil and gas infrastructure - operation	The Inspectorate agrees this matter can be scoped out on the basis that no oil and gas infrastructure lie within the scoping boundary and therefore that no significant effects are likely to occur.

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3229	Table 26-6	Effects on other infrastructure (Mersey Tunnels) – all phases	The Applicant proposes to scope out impacts on the Mersey Tunnels. As the design of the Proposed Development has not been refined, the Inspectorate is unable to agree to scope this matter out. Limited detail regarding the routes of the Mersey Tunnels is provided in conjunction with the location of the Proposed Development. The ES should therefore include an assessment of the potential significant impacts on the Mersey Tunnels, unless otherwise agreed with the relevant consultation bodies.

ID	Ref	Description	Inspectorate's comments
32210	Table 26-1	Information sources	The key sources of data acquired should be fully referenced in the ES, as well as including which organisation has published the acquired data.
32211	Table 26-6	Onshore oil and gas infrastructure	Oil and gas onshore infrastructure are referred to under the 'onshore renewable energy projects' activity. This should be separated out as this is confusing, unless collectively they will be referred to as 'onshore energy projects'. For the avoidance of doubt the Inspectorate agrees that oil and gas onshore infrastructure should be scoped into the ES as indicated in the Scoping Report.

3.23 Military and Civil Aviation

(Scoping Report Section 27)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3231	Paragraph 27.10.6	All matters	The Scoping Report seeks to scope out impacts on aviation on the basis that there is a significant distance between the Proposed Development and many receptors, and the maximum height of the Proposed Development is not anticipated to have a significant impact on the airspace above the Proposed Development. The Inspectorate notes that the Applicant will consult the Civil Aviation Authority (CAA) in relation to any requirements for aviation lighting on the Proposed Development. The Inspectorate is content to scope this matter out on the basis of the information provided. Should the maximum parameters of the structures increase, it may be necessary to review the scope and include an aviation assessment. However, should the parameters change but the Applicant remains of the view that an assessment is not required, the ES should include evidence demonstrating agreement with the CAA (and any other relevant consultation bodies) and the absence of likely significant effects.

ID	Ref	Description	Inspectorate's comments
3232	Paragraph 27.13.1	Approach to EIA	The Scoping Report states that all impacts are proposed to be scoped out, however this paragraph implies that further studies will be undertaken to identify receptors. The approach to the inclusion of this chapter needs to be clear and confirmed with relevant consultation bodies.

3.24 Greenhouse Gases

(Scoping Report Section 28)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
324.1	Table 28-6	Disposal of waste – construction	The Scoping Report seeks to scope out greenhouse gas (GHG) emissions arising from the disposal of waste during construction on the basis that these are not expected to be large as the waste will mostly be inert. The Inspectorate is not content that there is sufficient certainty that this will be the case and is not able to agree to scope this matter out at this stage. The ES should confirm the type and quantity of construction waste and include this within the assessment.
324.2	Table 28-6	Land use, land use change, and forestry – construction and operation	The Scoping Report seeks to scope this matter out on the basis that the reduction in carbon sequestration due to land use change onshore is not considered to be significant. The extent of vegetation removal, and therefore the impact on carbon sequestration, is not provided within the Scoping Report. However, the Inspectorate has considered the characteristics of the Proposed Development site, and its location on brownfield land, and is content that significant effects resulting from land use change are not likely to occur. Therefore, the Inspectorate is content that this matter can be scoped out of further assessment.
324.3	Table 28-6	Installed products and materials – operation	The Scoping Report seeks to scope out this matter on the basis that the proposed materials that are expected to be used in the Proposed Development are not expected to release GHG emissions. The Inspectorate agrees with this approach and is content to scope this matter out.
324.4	Table 28-6	Water use – operation	The Applicant seeks to scope this matter out as the Proposed Development is not expected to require significant use of water from public supplies, however discussing using water as a cooling system within the Scoping Report. The Inspectorate is therefore not content to scope this matter out at this stage.

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3245	Table 28-6	Other processes – operation	The Scoping Report seeks to scope this matter out on the basis that the Proposed Development is not expected to require significant use of additional products and consumables, beyond those that would be accounted for under maintenance, repair, replacement and refurbishment activities (which are scoped in for assessment for all components of the Project). The Inspectorate is content that this matter can be scoped out of further assessment, however the ES should describe how the Proposed Development has considered the design life of the various components to limit the potential for comprehensive replacement / refurbishment being required during operation.
3246	Table 28-6	Decommissioning activities	Due to the 120-year design life of the Proposed Development, the Applicant seeks to scope out decommissioning activities as it is not possible to proportionally assess the effects. The Inspectorate is content to scope this matter out on the basis that an outDEMP is provided with the dDCO to secure the outline decommissioning activities, under the assumption that these activities will not be any more significant than the construction phase.

ID	Ref	Description	Inspectorate's comments
3247	n/a	n/a	n/a

3.25 Climate Change Resilience

(Scoping Report Section 29)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
325.1	Paragraph 29.10.33	Construction phase	The Applicant proposes to scope out the construction phase assessment for all climate change variables on the basis that embedded measures can be implemented and the time period for construction being 10 years. The Inspectorate disagrees that within a 10-year period of construction the impacts from climate change would not lead to a significant effect as impacts to infrastructure would be limited, particularly at coastal locations. This does not take into account extreme weather events both onshore and offshore or impacts to human receptors (e.g. construction workers). The Scoping Report (Table 15-6) does not include this matter in the proposed assessment of major accidents and disasters. The ES should assess impacts from climate change over the construction period where significant effects are likely to occur and describe and secure any relevant mitigation measures.
325.2	Paragraph 29.10.34	Precipitation, changes in annual temperature and soil moisture for the Tidal Barrage and the Ancillary equipment – operation	The Scoping Report seeks to scope this matter out on the basis that vulnerability is considered to be low. The Inspectorate has considered the characteristics of the Tidal Barrage and ancillary equipment and is content that significant effects from climate change on the Tidal Barrage and ancillary equipment are unlikely to arise from changes in annual average precipitation and temperature, and soil moisture and agrees that these matters can therefore be scoped out of the ES.
325.3	Paragraph 29.10.34	Change in annual precipitation, drought, change in annual temperature and humidity for the	The Scoping Report seeks to scope this matter out on the basis that vulnerability is considered to be low. The Inspectorate has considered the characteristics of these components of the Proposed Development and is content that significant effects from climate change are unlikely to occur and therefore this matter can be scoped out of further assessment.

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
		ancillary buildings – operation	
3254	Paragraph 29.10.34	Changes in annual and extreme temperature, drought, humidity, wind events and sea level rise for the grid connection – operation	The Applicant seeks to scope this matter out on the basis that vulnerability is considered to be low. The Inspectorate has considered the characteristics of these components of the Proposed Development and is content that significant effects from climate change are unlikely to occur and therefore this matter can be scoped out of further assessment.
3255	Paragraph 29.10.34	Change in annual precipitation, drought, change in annual temperature, humidity, soil moisture and sea level rise for end users – operation	The Applicant seeks to scope out his matter on the basis that the vulnerability is considered to be low. As the end users have not been fully defined for the Proposed Development, the Inspectorate is unable to conclude that this matter can be scoped out of the ES. Further details regarding the types of end users and explanation of their low vulnerability are required to scope this matter out of the ES, if this cannot be defined and confirmed to be low vulnerability, then this matter should be scoped into the assessment,
3256	Paragraph 29.10.35	Decommissioning phase	Due to the 120-year design life of the Proposed Development, the Applicant seeks to scope out decommissioning activities as it is not possible to proportionally assess the effects. The Inspectorate is content to scope this matter out on the basis that an oDEMP is provided with the dDCO to secure the outline decommissioning activities, under the assumption that these activities will not be any more significant than the construction phase.

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ID	Ref	Description	Inspectorate's comments
325.7	n/a	Climate change projections	The Applicant is directed to the response from the Environment Agency in relation to appropriate climate change projections that should be considered within the assessment. These should be applied to other relevant assessments, such as the assessment of flood risk presented in Scoping Report Chapter 19.

3.26 Materials and Waste

(Scoping Report Section 30)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
326.1	Table 30-9	Dredging – all phases	<p>The Scoping Report seeks to scope this matter out as sediment of an appropriate quality would be disposed of in accordance with necessary permissions at existing licensed offshore disposal sites or used in an ecological enhancement project. It is stated that contaminated sediment would be treated in accordance with regulatory requirements.</p> <p>In the absence of information referred to at ID 2.0.5 of this Opinion, the Inspectorate is not able to agree to scope this matter out of the ES. An assessment of effects arising from use of existing offshore disposal sites, and project specific disposal sites if required, should be scoped into the ES. Please also refer to Section 3.1 of this Scoping Opinion for the Inspectorate's comments on coastal processes and I.D 2.0.5 for comments on the waste that could be generated from maintenance of the tidal barrage (such as debris from screens or entrainment).</p>
3262	Table 30-9	Consumption of materials required for maintenance or repair works – operation	<p>The Scoping Report seeks to scope this matter out on the basis that the quantities of materials are considered to be negligible given the nature and scale of the Proposed Development. The Inspectorate agrees that the consumption of materials during the operation of the Proposed Development is unlikely to result in significant effects. The Inspectorate agrees that this matter can be scoped out from the ES.</p>
326.3	Table 30-9	Generation and disposal of waste – operation	<p>As the full extent of operational activities is unknown at this stage, with the inclusion of ancillary facilities, the Inspectorate is not content to scope this matter out at this stage. The ES should provide details of the types of facilities proposed. Should these additional details confirm that there is likely to be minimal waste produced during operation, then this could be excluded from further assessment.</p>

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ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3264	Table 30-9	Decommissioning phase	The Scoping Report seeks to scope these matters out on the basis that the Proposed Development has a long design life, and it is not considered possible to reliably forecast decommissioning and infrastructure requirements this far in advance. The ES should provide estimates of the type and quantity of waste and materials at the point of decommissioning and provide an assessment of decommissioning to the extent possible at this time.

ID	Ref	Description	Inspectorate's comments
3265	Paragraph 30.3.1	Consultation	Consultation should be carried out with the relevant local authorities who deal with the disposal of waste.
3266	n/a	Spatial extent of assessment	The ES should include an assessment of effects on material resources, mineral resources and waste management capacity in North Wales. The study area and methodology should be discussed and where possible agreed with relevant consultation bodies.

3.27 Health Impact Assessment

(Scoping Report Chapter 3 and Scoping Report Appendix 3.5)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
327.1	n/a	n/a	No matters are proposed to be scoped out of the assessment.

ID	Ref	Description	Inspectorate's comments
3272	Paragraph 2.3.7	Key determinants of health	<p>The Applicant is directed to consider the Institute of Environmental Assessment (IEMA) guidance on population and human health impact assessment. The guidance documents are:</p> <ul style="list-style-type: none"> • Effective Scoping of Human Health in Environmental Impact Assessment (November 2022); and • Determining Significance for Human Health in EIA (November 2022).
3273	Section 3.3	Study area	The study area identified in the ES should be supported by an appropriate figure and explanation on the reasons for its selection. This should be discussed and where possible agreed with relevant consultation bodies.
3274	Scoping Report Chapter 3, paragraph 3.11.14	Relationship with the ES	<p>The Health Impact Assessment (HIA) is proposed to be prepared in parallel with the EIA, but as a separate document. It is not clear how the final ES will therefore address effects on population and human health.</p> <p>The Inspectorate considers that a population and human health assessment should be provided within the ES so that the potential effects on this aspect are brought together in one place and for ease of reference for relevant consultation bodies.</p>

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ID	Ref	Description	Inspectorate's comments
327.5	Section 4.5	Significance conclusions	<p>The conclusions arising from the HIA should state which effects are considered to be significant and not significant, with reference to the methodology presented in Scoping Report Chapter 3 where appropriate.</p> <p>Where significant effects are identified, mitigation measures should also be proposed.</p>
327.6	n/a	Cumulative effects	<p>The HIA should consider the potential for significant cumulative health effects both intra- and inter-project cumulative effects.</p>

APPENDIX 1: CONSULTATION BODIES FORMALLY CONSULTED

TABLE A1: PRESCRIBED CONSULTATION BODIES

Bodies prescribed in Schedule 1 of The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended) (the 'APFP Regulations (as amended)')

SCHEDULE 1 DESCRIPTION	ORGANISATION
The Secretary of State for Defence	Ministry of Defence
The Environment Agency	Environment Agency
Natural Resources Wales	Natural Resources Wales
Natural England	Natural England
The Forestry Commission	Forestry Commission - North West & West Midlands
The Historic Buildings and Monuments Commission for England (known as Historic England) (OFFSHORE ONLY)	Historic England
The Historic Buildings and Monuments Commission for England (known as Historic England)	Historic England
The Joint Nature Conservation Committee	Joint Nature Conservation Committee
The Maritime and Coastguard Agency	Maritime & Coastguard Agency
The Maritime and Coastguard Agency - Regional Office	The Maritime and Coastguard Agency - Liverpool Marine Office
The Canal and River Trust	The Canal and River Trust
Trinity House	Trinity House

SCHEDULE 1 DESCRIPTION	ORGANISATION
The relevant Highways Authority	National Highways
	Wirral Metropolitan Borough Council Highway Department
	Sefton Council Highway Department
	Liverpool City Council Highway Department
	Cheshire West and Chester Council Highway Department
Integrated Transport Authorities (ITAs) and Passenger Transport Executives (PTEs)	MerseyTravel
The Civil Aviation Authority	Civil Aviation Authority
The Health and Safety Executive	Health and Safety Executive
NHS England	NHS England
The relevant parish council or, where the application relates to land in Wales or Scotland, the relevant community council	Ince Blundell Parish Council
	Thornton-le-Moors Parish Council
	Little Stanney and District Parish Council
	Backford Parish Council
	Lea-by-Backford Parish Council
	Mollington Parish Council
	Capenhurst and Ledsham Parish Council
	Neston Town Council
	Hale Parish Council
	Sefton and Lunt Villages Parish Council
	Thornton Parish Council
	Aintree Village Parish Council

SCHEDULE 1 DESCRIPTION	ORGANISATION
	Hightown Parish Council
	Knowsley Town Council
	Halewood Town Council
	Puddington Parish Council
	Frodsham Town Council
	Elton Parish Council
	Ince Parish Council
	Holywell Town Council
	Bagillt Community Council
	Connah's Quay Town Council
	Flint Town Council
	Mostyn Community Council
	Halebank Parish Council

TABLE A2: RELEVANT STATUTORY UNDERTAKERS

‘Statutory Undertaker’ is defined in the APFP Regulations (as amended) as having the same meaning as in Section 127 of the Planning Act 2008 (PA2008)

STATUTORY UNDERTAKER	ORGANISATION
The Crown Estate Commissioners	The Crown Estate
The relevant police authority	Cheshire Police and Crime Commissioner
	Merseyside Police and Crime Commissioner
The relevant ambulance service	North West Ambulance Service NHS Trust

STATUTORY UNDERTAKER	ORGANISATION
The relevant fire and rescue authority	Cheshire Fire and Rescue Service
	Merseyside Fire and Rescue Service
The relevant Integrated Care Board	NHS Cheshire and Merseyside Integrated Care Board
NHS England	NHS England
The relevant NHS Trust	North West Ambulance Service NHS Trust
The relevant NHS Foundation Trust	Liverpool Heart and Chest NHS Foundation Trust (Royal Liverpool University Dental Hospital)
	Wirral University Teaching Hospital NHS Foundation Trust (Victoria Central Hospital)
	Liverpool Women's NHS Foundation Trust
	The Clatterbridge Cancer Centre NHS Foundation Trust
	Mersey Care NHS Foundation Trust
	Liverpool University Hospitals NHS Foundation Trust
Railways	Network Rail Infrastructure Ltd
	National Highways Historical Railways Estate
Road Transport	Merseyside Passenger Transport Executive (Merseytravel)
Canal Or Inland Navigation Authorities	The Canal and River Trust
Dock and Harbour authority	Peel Ports Limited
	Victoria Group Limited
	Mersey Docks & Harbour Company Ltd
Civil Aviation Authority	Civil Aviation Authority
Licence Holder (Chapter 1 Of Part 1 Of Transport Act 2000)	NATS En-Route Safeguarding
Universal Service Provider	Royal Mail Group

STATUTORY UNDERTAKER	ORGANISATION
Homes and Communities Agency	Homes England
The relevant Environment Agency	Environment Agency
The relevant water and sewage undertaker	United Utilities
The relevant public gas transporter	Northern Gas Networks Limited
	ESP Pipelines Ltd
	ESP Networks Ltd
	ESP Connections Ltd
	ES Pipelines Ltd
	Energy Assets Pipelines Limited
	CNG Services Ltd
	Scotland Gas Networks Plc
	Harlaxton Gas Networks Limited
	Cadent Gas Limited
	Southern Gas Networks Plc
	Quadrant Pipelines Limited
	Fulcrum Pipelines Limited
	Stark Works
	GTC Pipelines Limited
	Mua Gas Limited
Leep Gas Networks Limited	
Last Mile Gas Ltd	
Inovyn Enterprises Ltd	

STATUTORY UNDERTAKER	ORGANISATION
	Indigo Pipelines Limited
	Independent Pipelines Limited
	National Gas
The relevant electricity distributor with CPO Powers	Last Mile Electricity Ltd
	Vattenfall Networks Limited
	Utility Assets Limited
	UK Power Distribution Limited
	The Electricity Network Company Limited
	Stark Infra-Electricity Ltd
	Optimal Power Networks Limited
	Energy Assets Networks Limited
	Leep Electricity Networks Limited
	National Grid Electricity System Operation Limited
	Indigo Power Limited
	Independent Power Networks Limited
	Independent Distribution Connection Specialists Ltd
	Harlaxton Energy Networks Limited
	Fulcrum Electricity Assets Limited
	Mua Electricity Limited
	Diamond Transmission Partners BBE Limited
	National Grid Electricity Transmission Plc
	Eclipse Power Network Limited
	ESP Electricity Limited
Aurora Utilities Ltd	

STATUTORY UNDERTAKER	ORGANISATION
	Aidien Ltd
	Advanced Electricity Networks Ltd
	SP Manweb Plc
	Electricity North West Limited
	Zenobe Energy Limited

TABLE A3: LOCAL AUTHORITIES AS DEFINED IN SECTION 43(3) OF THE PA2008

LOCAL AUTHORITY
Liverpool City Council
Wrexham County Borough Council
Wirral Metropolitan Borough Council
West Lancashire Borough Council
Warrington Borough Council
Sefton Council
Lancaster City Council
Knowsley Metropolitan Borough Council
Halton Borough Council
Flintshire County Council
Cheshire West and Chester Council
Cheshire East Council
Shropshire Council

TABLE A4: THE MARINE MANAGEMENT ORGANISATION

Section 42(1)(a) of the PA2008 requires consultation with the Marine Management Organisation in any case where the proposed development would affect, or would be likely to affect, any of the areas specified in subsection 42(2).

ORGANISATION
The Marine Management Organisation

TABLE A5: NON-PRESCRIBED CONSULTATION BODIES

ORGANISATION
Liverpool City Region Combined Authority
Royal National Lifeboat Institution

APPENDIX 2: RESPONDENTS TO CONSULTATION AND COPIES OF REPLIES

CONSULTATION BODIES WHO REPLIED BY THE STATUTORY DEADLINE:
Canal and River Trust
Environment Agency
Flintshire County Council
Halton Borough Council
Historic England
Health and Safety Executive
Joint Nature Conservation Committee
Little Stanney and District Parish Council
Marine Management Organisation
Maritime and Coastguard Agency
National Gas Transmission
National Grid
National Highways
NATS Safeguarding
Natural England
Natural Resources Wales
Network Rail
Northern Gas Networks
Shropshire Council
SP Energy Networks
Trinity House
United Utilities

CONSULTATION BODIES WHO REPLIED BY THE STATUTORY DEADLINE:

Warrington Borough Council

Wirral Metropolitan Borough Council

From: [Rebecca Wyllie](#)
To: [Mersey Tidal Power Project](#)
Subject: N0110006 - Mersey Tidal Power Project - Request for EIA scoping Opinion
Date: 16 October 2024 20:52:24
Attachments: [image001.png](#)

You don't often get email from [REDACTED]@canalrivertrust.org.uk. [Learn why this is important](#)

Thank you for your consultation on the Environmental Impact Assessment Scoping Opinion.

Please find below the formal comments on behalf of the Canal & River Trust (the Trust).

The proposal is to construct a tidal range barrage structure across the River Mersey. Power generation will be achieved by capturing the potential energy in the rise (flood) and fall (ebb) of the tides to drive submerged turbines to produce electricity. It will also include locks as part of the marine navigation system for vessels to continue to pass through.

The Canal & River Trust (the Trust) own and manage the Leeds & Liverpool Canal, Stanley Lock Flight and Liverpool South Docks. The canal enters into the dock system via Stanley Dock. The Liverpool Canal Link (LCL) provides a navigable route for canal boats from the bottom of Stanley Lock Flight to Liverpool's South Docks. The Trust own and manage Canning and Canning Half Tide Dock, down to Brunswick Dock, including Royal Albert Dock and Salthouse Dock, and Liverpool Marina in the South Docks.

The Trust would wish to see any potential impacts on; our waterway users (e.g. boaters, moorings and recreational users); infrastructure (the waterway, bridges, or dock walls etc); or the habitats that our waterway support, identified and addressed within any Environmental Statement and supporting application documents. It would be important to safeguard environmental quality, structural integrity and navigational safety of the above assets both during construction and operation of the development.

The sections below have been ordered as set out in the EIA scoping report.

Chapter 5 - Coastal Processes

Chapter 5 considers the potential likely significant effects on coastal processes and on water and sediment quality that may arise from the construction, operation and maintenance (O&M) and decommissioning activities of the tidal barrage. Hydrodynamic modelling will be utilised to demonstrate potential effects.

The Study Area is shown on Fig 5.1. Liverpool Docks are on the east bank of the tidal barrage development area.

Liverpool South Docks has two impounding pumps that pump water into to docks from the River Mersey on the flood (incoming tide). The pumps operate automatically to retain the water at an operational level of 8.50m ACD, +/-200mm. The pumps only operate if the level drops below 8.50m ACD. River water can also be brought in via Canning River Entrance if required. The only other source of water is freshwater from the L&L Canal, via Stanley Lock Flight and the Liverpool Canal Link. The water coming in from the river is heavily laden with silt. The docks are a marine ecosystem, however we encounter issues with maintaining salinity, as there can be an influx of fresh water from the canal occasionally.

The suspended solid in the estuary as result of the proposal, such as dredging and construction, may impact the dock system. Any sediment deposition falling in proximity to gates into the dock system or abstraction of water into the docks (e.g. the input near Bramley Dock or pumps at Brunswick) could impact the dock system. In turn it could lead to increasing the need for dredging requirement and reduction in the lifespan of the Trust's pumps.

The Trust would question whether more turbid and sediment loaded water would be pumped into the Docks during all stages. Sediment loading has the potential to affect water quality and increase water quality testing requirements within the dock system. Sediment loading would also impact on the dock ecosystems, as well as water quality and environmental damage, which should be cross referenced with any ecological assessment.

Any assessment of coastal processes and water and sediment quality in connection with the proposal should include the Liverpool Docks as an identified receptor, as there is a possibility of impact.

The related impacts of sediment changes in the Estuary, both in terms of suspended solids/turbidity and any changes to sediment deposition close to our assets or within the dock system (hydro morphology changes) may impact the dock system and river wall. Any assessment should consider any potential impact on the dock system which takes in water from the Estuary.

The Trust would seek consideration of the following potential impacts of the tidal barrage on Liverpool South Docks and river wall for all stages of development (construction, operation, and decommissioning):

- Potential changes to sediment deposition within and close to the Liverpool South Docks system due to impacts of sediment changes in the Estuary, both in terms of suspended solids/turbidity and any changes to sediment deposition (hydro morphology changes).
- Clarification on the potential for sedimentation increase and causing build up of silt within the docks and in proximity to river gates, along with appropriate mitigation. Increased sedimentation within the dock system would necessitate additional dredging having to be carried out within the internal dock system and around approaches to river entrances.
- Impact on salinity levels in the dock system as a result of the tidal barrage
- Impact on water quality within the dock system (currently the Liverpool South Docks have good water quality and Blue Flag Status Marina)
- Impact on water quality in connection with potential changes in sewerage in the Estuary, with reference to potential impact on water quality in the dock system
- Any adverse impact on the River wall in terms of erosion or being undermined.

Embedded mitigation measures have been identified and are proposed to be adopted as part of the evolution of the Project Design. The Environmental Embedded measures refer to the preparation of a CEMP and agreed method statement for sediment mobilisation and water and sediment quality, which the Trust would seek to review.

Chapter 6 - Benthic, Subtidal and Sediment Quality

The potential for more turbid and sediment loaded water being pumped into the Docks during all stages, and impacts of hydro morphological changes, has the potential to affect water quality, salinity levels and increase sediment loading within the South Docks which has the potential to impact the marine dock ecosystem. Increased sediment being pumped in would lower dissolved oxygen levels. The marine ecosystem in the docks would also be affected by changes in salinity levels.

Any environmental assessment should include the ecosystem within the dock system as an identified receptor, to be protected during and post construction works.

Measures to safeguard the ecological value of the Liverpool Docks should be included in the Outline Construction Environmental Management Plan (OCEMP) to be prepared at a later stage, and the Trust would request to review this document and any environmental mitigation measures outlined in connection with the Proposal.

Chapter 13 Terrestrial Ecology and Biodiversity

The black redstart (bird) uses industrial areas for breeding such as our dock areas.

Any ecological assessments should consider any potential impact associated with the onward grid connection on shore. Any work/cable connection that would cross any waterway corridor (over or under) would need to consider any potential impacts on habitats e.g. vibration, excavation, habitat loss, or sediment mobilisation. The

Trust consider that underground cable crossings are less intrusive in ecological terms.

Chapter 14 - Socio-economics

Liverpool South Docks has two access points for vessels arriving/departing to the River Mersey, Brunswick River Entrance provides access to Liverpool Marina and Canning River Entrance providing access to Canning and Albert Docks. Both entrances are tidally restricted and provide access for leisure vessels and limited commercial vessels.

Vessels entering the River Mersey would need to pass through a set of new locks in the tidal barrage, which may affect recreational and commercial users. The Trust would seek to safeguard the use and attraction of the Liverpool South Docks and the Marina. The Trust would request any impact on visitors attending the Liverpool South Docks (increased cost, navigational inconvenience or disruption to navigational traffic) should be scoped into any assessment.

The use of the Liverpool Souths Docks are critical to its success and the experience and ease of navigation is important to its sustainable use. The Docks contain Liverpool Marina, moorings and related boating businesses. Any EIA should consider any potential impact, at construction and operational stage, on the impact of stopping/disrupting navigation during construction or affecting being able to visit the Docks, along with associated impact on existing boating businesses within the docks as a result of the development.

Liverpool South Docks and Royal Albert Dock are recognised recreational areas, contributing to local economy, tourism and health and well-being as an opportunity for outdoor water activities and walking routes. It is important to ensure that any development minimises disruption to navigational safety and use of the canal and docks, at construction or operational stage along with associated use of their recreational and leisure offer. Any potential impact upon these recreational functions, moorings (e.g. boaters) should be included in any assessment upon surrounding tourism and recreational amenity.

The proposal comprises the transfer of the generated power supply to onward grid connection on shore and operational facilities. The Trust would welcome further details to ascertain that any development would not compromise the safe operation or navigation of the Trust's assets and waterways or reduce or compromise its navigational envelope as a result of such infrastructure (e.g. as a result of an overhead crossing).

Chapter 16 - Shipping and Navigation

This Chapter considers the potential impact to shipping and navigation and the receptors are ports and leisure users and refers to determining the interaction between the proposed barrage and receptors and defining the navigation receiving environment. The chapter also states that further data is to be collected for characterising shipping and navigation in the study area, which the Trust would seek to be involved in.

Liverpool South Docks has two access points for vessels arriving/departing the River Mersey,

- Brunswick River Entrance provides access to Liverpool Marina
- Canning River Entrance providing access to Canning and Albert Docks.

Both entrances are tidally restricted and provide access for leisure vessels and limited commercial vessels. The Trust would seek to have any potential impact upon navigational safety and operation of vessels entering Liverpool South Docks to be scoped into any Environmental Assessment, and for any such impacts to be mitigated against. The Proposal may result in existing operational windows at both river entrances changing, and the Trust would seek clarification on whether the Trust would receive more time on a tide to operate or less time on a tide to operate.

Vessels entering the River Mersey would need to pass through a set of new locks in the tidal barrage, which may result in increased risk to recreational vessels using the same barrage locks as commercial vessels, which should be scoped into any assessment. Potentially two separate locks for commercial and recreational vessels should be considered.

A Navigation Risk Assessment (NRA) will be prepared to determine, in view of the Project location on the River Mersey, whether the tidal barrage could lead to adverse effects on navigation within the river. The NRA

will consist of river navigation analysis, the identification of baseline risk controls, stakeholder engagement and risk assessments. The NRA will inform the proposed Marine Navigation chapter of the ES. The Trust would request to contribute to Navigational Risk Assessment.

- The Trust would seek further details regarding any on shore grid connection infrastructure in the interests of ensuring that development should not compromise the safe operation or navigation of the L & L Canal or docks or reduce or compromise its navigational envelope (e.g. as a result of an overhead crossing).

Chapter 18 - Terrestrial Archaeology and Cultural Heritage

Stanley Dock Conservation Area, the Grade II listed Stanley Flight Lock and Stanley warehouse complex are sited to the north east of the Liverpool Dockland Estate, and provide an important gateway to the Leeds & Liverpool canal. Albert Dock Conservation Area is located to the south of the dockland estates, within Liverpool South Dock, which combined significant Grade I listed structures, reflect the rich maritime history of the area. The Scoping document references the former UNESCO World Heritage status of Liverpool docks.

Depending on the location of the Barrage structure, any EIA should include an assessment of the potential impact upon these heritage assets and their settings, in terms of visual impact on views, setting and historic character and significance of the docklands. Any impacts should be mitigated accordingly to avoid harm to significance of heritage value.

The Scoping Report refers to potential impacts at the operation stage to buried heritage assets related to the O&M buildings and cable trench and through the introduction of new built form within the vicinity of the proposed cable route. It is welcomed that the barrage and O&M buildings will be subject of careful design, regarding form, massing, materiality, colour, to create an appearance that minimises harmful intrusion into the settings of heritage assets.

The Trust would welcome consideration of the potential impact on the above heritage assets with regard to the construction, operation and decommissioning of the proposal, including the barrage structure and any grid connection infrastructure delivering the power supply from the barrage to a substation.

Chapter 19 - Water Resources and Flood Risk

This chapter considers the potential likely significant effects on water resources and flood risk that may arise from the construction, operation and maintenance (O&M) and decommissioning activities of the Project.

The Study Area for the assessment of flood risk and drainage will include all potential receptors (land and property) that could be at risk of increased flood risk as a result of the Project, typically up to 1km from the Scoping Boundary. A standalone FRA will be prepared to support the ES. The FRA will investigate all potential sources of and assess the potential implications of the Project on flood risk to people and property.

The Trust own and manage approximately 4.0km of river side wall at Liverpool South Docks. This wall in places is susceptible to flooding (during high spring tides and poor weather) including the former Brunswick Half Tide Dock entrance and the existing Canning River Entrance. The river wall is quite low at certain points. The tide can overtop the infrastructure at Canning River entrance, and has caused damage to the dock previously.

The Trust would seek consideration that there would be no flood risk created elsewhere associated with the proposal. This includes in terms of any future flood event behind the barrage causing any flood risk to the south dock's estate and/or any potential to overtop the river wall and river entrances into the dock. It is unclear if the barrage would protect Liverpool South Docks from rising sea levels.

Any environmental assessment should include consideration of not affecting flood risk elsewhere, with reference to there being no adverse impact from the tidal barrage structure on Liverpool South Docks, the river wall and river entrances into the docks and ensuring any level rise behind the barrier would not put the docks at risk.

- During construction the construction phase of the Project, anticipated temporary drainage solutions which will be implemented should seek to safeguard all waterbody receptors, and should include the Liverpool South docks, canal and canal link. Any Environmental Assessment should consider the potential impact upon the

canal and water quality of controlled waters in connection with any proposed drainage methods (during construction and operation) and consider how to prevent contaminants entering water receptors.

Any site investigation and assessment of potential contaminant linkages should consider the Liverpool Dock and canal, and its users, as receptors, with regard to potential pollution pathways, and the watercourses should be protected from potential pollution from contaminated sources during the construction and operational phases. The waterway needs to be considered as a receptor to potential contamination during the construction works and mitigated and protected accordingly, (e.g. within any further CEMP details).

The scoping report outlines that impacts on surface water features will be assessed for the proposed grid connection. Once the route has been developed further, the Trust would request that the Leeds & Liverpool canal and docks, where applicable, are safeguarded during construction and operation of any grid connection infrastructure, against contamination.

Chapter 20 - Land Use, Recreation and Tourism

The potential impact associated with land use, recreation and tourism should be cross referenced with our comments for Chapter 12 - Socioeconomic impact, with regard to recreational, and tourism uses within Liverpool South Docks, and the canal.

Chapter 21 - Air Quality

This chapter refers to consideration of potential effects of dust deposition due to construction activities that affects sensitive habitats and mitigation measures will be developed as part of the DCO process. The required management and mitigation of dust would be incorporated into a CEMP and submitted with the DCO Application. The Trust would welcome any assessment of construction dust to consider the dock system as a sensitive receptor to construction dust, depending on the location of the barrage.

Consideration may need to be given to the management and potential mitigation of dust pollution during construction of any onward grid connection and on shore operational buildings in proximity to controlled waters e.g. L & L canal and Liverpool Docks.

Chapter 22 - Onshore Noise and Vibration

The submitted details outline that construction vibration impact will be determined at a series of set-back distances within the Study Areas for the sensitive human receptors and the sensitive cultural heritage receptors.

Liverpool Dock contains historic dock walls, the Liverpool Canal Link which travels through a tunnel at one stage, canal infrastructure and operational swing bridges. Depending on location of barrage, potential noise and vibration impacts from construction activities may require having to consider the Trust's assets as receptors. There may be a need to consider any potential impact on the structural integrity of the dock wall and heritage structures within Liverpool South Docks and L & L Canal in terms of vibration associated with the construction phase of the proposal.

The Trust would welcome further detail on the onward grid connection to onshore infrastructure and operational buildings (siting and design of grid connection) to help the Trust understand how the grid connection would interface with our assets and assess any potential impact. Any works to install grid connection infrastructure below/over the canal/waterway would need to be carefully managed to avoid any significant vibration that could adversely impact the stability of the canal/dock space.

Any access over Trust land or in proximity to our assets would be required to comply with the Trust's Code of Practice (to safeguard the Trust's assets in the development process) which outlines vibration monitoring limits.

Any potential use of or inclusion of Trust bridges during the construction phase and construction routing by traffic should consider any potential vibration, during construction and operational use, to safeguard the stability of the infrastructure. This should be cross referenced with the comments raised in the Transport section.

Chapter 23 - Geology and Ground Conditions

The Geology and Ground Conditions chapter will consider the potential likely significant effects related to

Geology and Ground Conditions that may arise from the construction, operation and maintenance (O&M) and decommissioning activities of the Project. It is welcomed that controlled waters are included as a receptor.

Depending on the location of the barrage, it is important that structural integrity of the dock infrastructure and waterways are not put at risk as part of any development proposal, during construction and operation, including excavations, vibrations from plant or machinery or traffic movements.

Any assessment should consider appropriate mitigation in terms of protecting against any potential impact on land stability. Any assessment of ground conditions, and preparation of construction methodology, should appropriately safeguard the Liverpool Dock, canal link and tunnel and L & L canal, during construction and in the long term.

Chapter 24 - Terrestrial Traffic and Transport

This chapter will consider the potential likely significant effects on the transport network and sensitive receptors that may arise from the construction, operation and maintenance (O&M) and decommissioning activities of the Project.

It refers to the Implementation of a Construction Traffic Management Plan (CTMP) to minimise the impact of construction traffic associated with the tidal barrage and grid connection on sensitive receptors and transportation of the majority of components and materials associated with the tidal barrage to the marine working area by marine methods.

The Trust would welcome further detail to be provided on construction routes and traffic management and for consideration of any potential impact on the surrounding road network and infrastructure (bridges) and navigational environment.

The comments in this section should be cross referenced with our comments in relation to Onshore Noise and Vibration.

Chapter 25 - Seascape, Landscape and Visual

The seascape, landscape and visual chapter will consider the potential likely significant effects on seascape, landscape and visual receptors that may arise from the construction, operation and maintenance (O&M) and decommissioning activities of the Project, including indirect impact through visibility of these changes.

Stanley Dock Conservation Area and the listed Stanley Flight Lock are sited to the east and north of the application site and provide an important gateway to the Leeds & Liverpool canal. Albert Dock Conservation Area is within Liverpool South Dock, which combined with numerous listed structures reflect the rich maritime history of the area.

It is welcomed that Royal Albert Dock is identified as a visual receptor. The Trust would welcome any assessment to consider any potential visual impact on the Liverpool South Docks, (the scoping report does refer to a marina) Leeds and Liverpool Canal and Stanley Warehouse complex and the Lock Flight.

The above mentioned canal and dockspace, and its users should be key visual receptors within the site in any EIA visual assessment and should be acknowledged within representative viewpoints.

The environmental measures to be embedded into the Project Design refer to avoiding the use of open cut cable line techniques across sensitive habitat such as rivers and streams, the use of horizontal directional drilling to be implemented during construction to avoid significant impacts on sensitive landscape receptors, along with the sensitive design of Design of O and M infrastructure which is welcomed.

It would be appropriate for any cable grid connection that would cross any Trust waterway to be located underground to minimise any visual impact upon the setting. Any above ground cable crossing(s) would require an assessment of the potential visual impacts of such infrastructure, and how any impact on landscape character would be mitigated against.

Chapter 26 - Infrastructure and Other Marine Users

This Chapter considers infrastructure and other marine users and considers the potential likely significant effects on third party assets and human users of the marine environment. This chapter refers to water activities (leisure) in Liverpool South Docks.

The South Docks waterspace is currently has a variety of recreational users on the waterspace. Liverpool Marina is based within the South Docks and vessels can access the River Mersey via Brunswick Lock every day of the year. Liverpool Yacht club are based at the marina and frequently race on the river, and to other locations such as the Isle of Man.

Canning River Entrance provides access to Canning and Albert Docks. Albert Dock is managed by the Trust's Waterside Moorings and tends to accommodate sea going vessels on long term berths. Canning Docks tends to be used for vessels visiting the centre of Liverpool, such as Tall Ships and visiting yachts.

At Section 26.6, Inland Waterway vessels are mentioned in relation to the Tidal Barrage Development Area , as well as Liverpool South Docks, Salthouse Dock, the Watersports Centre and recreational routes across the Mersey. The Blue Flag success for Liverpool South Docks is also mentioned. It does acknowledge that there will be impact on recreational users and further consultation would be required. The Trust would request to be included in this consultation and contribute to any assessment. Any vessel wishing to berth within Liverpool South Docks, may be affected by having to pass through the tidal barrier, incurring navigational delay or cost.

The Trust would request for any of the above impacts, with particular regard to use of the Liverpool South Docks, to be scoped into any Environmental Assessment.

These comments should be cross referenced with Chapters 16 (Navigation) and 12 (socioeconomic).

Other comments

The tidal barrage design and grid connection infrastructure are yet to be further developed.

We note that separate discussions would be needed to take place between the Trust and the applicant in terms of any formal agreements that may be required for crossing our land.

The Trust would be happy to discuss the protective provisions for the Canal & River Trust, as a statutory undertaker, to be included within the draft Order. Please note that the Canal & River Trust as statutory undertaker has specific duties to protect the waterways and it is likely that we will resist the use of compulsory powers which may affect our undertakings or to acquire rights over any of our land. Accordingly, to avoid unnecessary delay and the incurrence of excess costs, any acquisition of Trust land or rights should be arranged voluntarily.

We wish to advise that the applicant may have to comply with the Trust's 'Code of Practice for Works affecting the Canal & River Trust' (<https://canalrivertrust.org.uk/business-and-trade/undertaking-works-on-our-property-and-our-code-of-practice>) in the event that any part of the proposal includes works in close proximity to and/or crossing Trust owned assets.

The applicant/developer is advised to contact the Canal & River Trust's Works Engineering Team at Enquiries.TPWNorth@canalrivertrust.org.uk for more information upon the Code of Practice.

The above comments are given without prejudice to any further matters which may be raised by the Trust at a later stage as more details emerge.

Please do not hesitate to contact me with any enquiries that you may have.

Kind regards

Rebecca Wyllie BSOCS MA MRTPI
Area Planner

E  [canalrivertrust.org.uk](mailto:rebecca.wyllie@canalrivertrust.org.uk)

W www.canalrivertrust.org.uk

M 

Please note my working days are Tuesday – Thursday

Canal & River Trust
National Waterway Museum,
Ellesmere Port, South Pier Road, Ellesmere Port, Cheshire, England, CH65 4FW



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Cadw mewn cysylltiad

Cofrestrwch i dderbyn e-gylchlythyr Glandŵr Cymru

Cefnogwch ni ar [REDACTED]

Dilynwch ni ar [REDACTED]

ac [REDACTED]

Mae'r e-bost hwn a'i atodiadau ar gyfer defnydd y derbynnydd bwriedig yn unig. Os nad chi yw derbynnydd bwriedig yr e-bost hwn a'i atodiadau, ni ddylech gymryd unrhyw gamau ar sail y cynnwys, ond yn hytrach dylech eu dileu heb eu copïo na'u hanfon ymlaen a rhoi gwybod i'r anfonwr eich bod wedi eu derbyn ar ddamwain. Mae unrhyw farn neu safbwynt a fynegir yn eiddo i'r awdur yn unig ac nid ydynt o reidrwydd yn cynrychioli barn a safbwyntiau Glandŵr Cymru.

Mae Glandŵr Cymru yn gwmni cyfyngedig drwy warant a gofrestrwyd yng Nghymru a Lloegr gyda rhif cwmni 7807276 a rhif elusen gofrestredig 1146792. Swyddfa gofrestredig: National Waterways Museum Ellesmere Port, South Pier Road, Ellesmere Port, Cheshire CH65 4FW.

Planning Inspectorate

Our ref: XA/2024/100164/01-L01

Your ref: EN0110006

[via email:

merseytidal@planninginspectorate.gov.uk]

Date: 16 October 2024

Dear Sir/Madam

ENVIRONMENTAL IMPACT ASSESSMENT SCOPING OPINION CONSULTATION - MERSEY TIDAL POWER PROJECT, LIVERPOOL.

Thank you for consulting us on the Environmental Impact Assessment (EIA) Scoping Report and Appendices for the Mersey Tidal Power Project. We have reviewed these documents and can offer the following advice:

We have provided our advice on the topics within our remit below. These are in the order prescribed by the Scoping Report for ease of reference. In some sections, there are key receptors and/or impacts that should be considered and these are discussed in detail. We've also provided detailed advice in relation to the assessment approach where there are specifics we would like to see included as the project design and environmental assessment progresses.

SCOPING REPORT

Chapter 2: Site Context and Project Description

Section 2.7.10 of the Scoping Report states that the proposed development can provide protection from sea level rise. Plates 2.5 and 2.6 within the Scoping Report show a reduced flood extent at 2150. This will need to be fully demonstrated through modelling and within a Flood Risk Assessment (FRA). It will also be necessary to fully assess the impacts of this on the existing riverbanks, flood defences, and other assets within the estuary.

Note to Applicant - The introduction of a tidal barrage across the Mersey Estuary has the potential to impact the Environment Agency's (EA) flood forecasting models and associated Flood Warning Service, particularly during the construction and operational phases of the development. We welcome the opportunity for further engagement with respect to hydraulic model development. It would be useful if general operational rules could be made available once the tidal barrage is constructed so that these can be incorporated into the relevant EA real time flood forecasting models.

Chapter 5: Coastal Processes

We generally agree with the baseline assessment for this topic, but we have some concerns around the assessment methodology, specifically in relation to receptor importance and significance of impacts. We have also raised some questions around the scoping out of impacts relating to barrage maintenance, marine disposal of sediment, emergency spills and transboundary effects.

Technical Guidance

The EA's Coastal Standards Technical Report LIT 56561 (2022) may be of interest as well as our recent guidance on using modelling for FRAs (December 2023) available online¹.

Assessment Methodology

Within Table 5-3, which defines levels of importance for receptors, it is proposed that a receptor would be of 'Medium' sensitivity if classified as having a 'Moderate' Water Framework Directive (WFD) status, or 'High' sensitivity if classified as 'Good' status. This would result in the Mersey (water body reference GB531206908100) being assigned 'Medium' sensitivity as a receptor. We strongly suggest that this should be higher, due to the aspiration for all water bodies to achieve Good status.

In addition, consideration should be given to whether the designation of a shellfish water makes a receptor 'Very High' rather than 'High'. The nearby Shellfish Waters are considered to be priority Shellfish Waters, so their significance economically is of national level.

We do not agree with Table 5-5, which assigns significance of potential effects, specifically that a 'Medium' impact on a 'Medium' sensitivity receptor would be considered of "neutral" significance.

Baseline Conditions

Table 5-6, which lists key sources of data, refers to the OSPAR Quality Status Report 2000. The Applicant should be advised that a new updated report was published last year² and reference should be made to this latest version.

Future Baseline

Section 5.7.1 notes that bathymetric and coastal changes could also affect the tidal barrage, but these are not expected to change dramatically. It would be sensible to provide supporting evidence for this, for example by evaluating historic bathymetric survey data or the outputs of sediment transport and bed evolution modelling.

Likely Significant Effects

Proposed Modelling

Entrainment has been identified as an issue scoped in for further assessment (see 10-14). However, we cannot see that the impact of entrainment in terms of water quality is going to be considered. What happens to the dead fish matter? How will that be

¹ [Using modelling for flood risk assessments - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/108448/Using_modelling_for_flood_risk_assessments_-_GOV.UK_(www.gov.uk).pdf)

² [Quality Status Report 2023 | OSPAR Commission](https://www.ospar.com/en/quality-status-report-2023)

modelled? What happens to the organic matter? How much is there? What does this equate to in terms of nutrients?

We are pleased to see that the potential for of changes in nutrient concentrations in the estuary as a result of the project will be assessed. We are interested to know how this will be modelled. Typically, you would need whole catchment information on nutrient inputs to establish algal bloom risk and a hydrodynamic model may not be able to explore this in enough detail, so there may be a need for a separate eutrophication / nutrient model.

Maintenance Impacts

'Potential effects from barrage maintenance including maintenance of any associated erosion control structures' have been scoped out from further assessment through the assumption that effects are likely to be negligible.

The Mersey is a flood dominant estuary, that has an overall net import of coarser sediments (sand grade) from the Irish Sea basin. The proposal is for a huge concrete structure, with a design life of 120 years, and interruption of this sediment pathway may have a detrimental effect on morphology further upstream of the proposed barrage. At present, neither the final design nor the location of the proposed structure is clear, so it cannot be assumed that effects are likely to be negligible. Without knowing the location, construction method or the impact such a structure would have on scour, deposition, or maintenance of moving parts, the environmental impact of maintenance is unknown. Maintaining rock armour, or other hard defences as described in the report, is unlikely to be negligible and there is no precedent for stating this. In addition, if barrage maintenance includes removal of biofouling then there could be effects on local substratum, water quality and Invasive Non-Native Species (INNS). The environmental impact of the maintenance should therefore be scoped in.

Marine Disposal of Sediment

'Potential effects from the marine disposal of sediment' has also been scoped out of further assessment, with the assumption that this would be disposed in accordance with all necessary permissions at existing licensed offshore disposal sites or used in an ecological enhancement project.

We are aware that others in the area are already struggling to find licensed space to dispose of their maintenance spoils. Relying on existing licensed disposal sites may not be possible and we consider that scoping this out of further assessment at this stage is premature. It must also be noted that the areas identified as spoil disposal sites in Figure 26.5 could be wholly within the proposed impounded section of the estuary if a barrier site is chosen to the north. Disposing of dredged material in these locations would have the effect of reducing the available water volume within the impounded section of the estuary.

Emergency Spills

It is stated that embedded mitigation including protocols for storage and use of material and spill response plans should reduce risk to an insignificant level.

Use of 'should' suggests uncertainty about risk of spills. If this uncertainty is real, then the spillages must be scoped in.

Transboundary Effects

Paragraph 5.12.1 states that “the inshore study area excludes impacts upstream of the tidal limit of the River Mersey” and that “outside of the study area all effects are expected to be negligible.” These statements are problematic, due to the tidal limit varying during each tide and upstream effects of the tide beyond the tidal limit, e.g. tidal locking. These effects, uplifted ground water levels, impacts of impounded river flow, including potential increased wave erosion of banks, may well be negligible but cannot be ruled out entirely, so should be scoped into the assessment.

Chapter 6: Benthic Ecology & Plankton

We are generally in agreement with the baseline assessment for this topic, but there is a lack of detail in regard to sampling when compared with the Fish and Shellfish chapter. We also have some concern around the significance values being assigned. We agree with the likely significant effects that have been identified and scoped in further assessment, and have provided some additional advice in relation to data sources and surveys.

Assessment Methodology

In paragraph 6.5.9, it is stated that where the effect could be allocated more than one significance level (according to Table 6-7), the final significance level applied will be based upon consideration of the available information and professional judgement. Other projects have preferred to take the more conservative and precautionary option of selecting the greater significance level. For consistency and for safer decision-making, recommend the same is done here.

Baseline Conditions

In paragraph 6.6.20, the Mersey estuary is stated to be predominantly a muddy estuary, with intertidal sand and muddy sand in areas of the inner estuary, all classed as ‘Circalittoral seabed’ in Figure 6.3. It should be noted that it’s not possible for intertidal sediments to be circalittoral (defined as the sublittoral zone below that dominated by algae).

Further Data Collection

There is discrepancy in detail between planned benthic sampling and fish sampling (in chapter 10). Fish sampling includes detail such as the method of sampling, number of stations, frequency and timing of sampling, but the benthic sampling does not. Whilst acknowledging uncertainty about the final sampling program, the Applicant should be more explicit about the intended sampling regime for intertidal and subtidal benthos and sediment, particularly given that sampling scope has been discussed previously with consultees. We would expect to see at the least, some description of the intended sampling duration, frequency, approximate timings and locations, along with some information about mode of sampling. For instance, there is no detail about how abundances of prey will be surveyed nor of sampling methods for phase II surveys. Sampling must be done at suitable spatial and temporal scales and at appropriate intensity. The sampling program should be agreed prior to the start of sampling.

Plans for any ongoing monitoring to assess for change are vague or non-existent, but we note the intention within the Commitments Register (Appendix 3.1) for a Project Environmental Monitoring Plan to be produced (OM3).

Phase I Survey

In paragraph 6.7.3, it is suggested that 'Phase I survey may be conducted to map biotopes across the Study Area and inform the locations of sampling stations for Phase II quantitative survey'. It's not clear from this whether Phase 1 surveys will be done and this must be explicit. We recommend that careful mapping of spatial extent and types of intertidal and subtidal biotope (Phase I), plus quantitative measures of densities of key, characterising or important species (Phase II) are required.

Appropriate methods for quantitative measures will depend on the habitat being sampled; this is essential if suitability is to be assessed and outputs are to be convincing. Consensus should be reached about methods, sampling design, locations, timeframes, etc. prior to the start of sampling.

Phase II Survey & Prey Abundance

In relation to these surveys proposed within Table 6-13, you should keep in mind that many populations of benthic infauna are strongly seasonal and some vary greatly in abundance from year to year. Great abundance or sparsity in one year does not necessarily mean that they will be the same the following year. A sampling program that runs over more than 1 year will be more robust than that from a single year. Sampling must use appropriate methods and be of suitable spatial extent and distribution, frequency and intensity for output to be convincing.

Any ongoing sampling to assess for change must be done with adequate spatial and temporal replication and in relation to control areas where no change is expected.

Rocky Intertidal and Macrofauna Survey

National Vegetation Classification survey techniques are not relevant for rocky shore surveys. Descriptions of methodology must pertain to the variables of interest and not copied from elsewhere.

Likely Significant Effects

Presence and Movement of Vessels

The citizen science program Seasearch runs annual surveys within some of the Liverpool docks. These may be a helpful source of information about native and INNS species present in areas where vessels will regularly visit. The records should all be available through NBN atlas³.

Presence of Artificial Lighting

To assess potential effects of lighting on plankton, nocturnal sampling would be necessary, because this is when lighting could exert an influence, and many plankton show diel vertical migration in response to ambient light levels. Site-specific surveys to characterise benthic assemblages would not help with this. The Applicant must ensure that pertinent methods are presented for the variables of interest, and this applies to all sections of the report describing sources of disturbance that may affect plankton.

Sediment Chemistry Data

Sediment is listed in Table 6-15 as a method of data analysis (and in Table 10-14).

³ [NBN Atlas - UK's largest collection of biodiversity information](#)

These should include sediment leachate analysis. This can be quite arduous in terms of resourcing, but is essential for looking at water quality impact.

Chapter 7: Invasive Non-Native Species

We support the intention to scope in all impacts and give further consideration to INNS. We are pleased to note that an INNS Management Plan is included within the Commitments Register (OM6).

Baseline Conditions

Table 7-3 lists the marine INNS identified within the study area. The Applicant should be aware that American slipper limpet also alters marine habitat through provision of hard biogenic substrata and increased 'siltation' through production of pseudofaeces. These potential impacts should also be considered.

Future Baseline

Table 7-7 lists non-native species that are likely to become invasive in Britain. There is a strong likelihood of red ripple bryozoan (*Watersipora subatra*) extending its range (through multiple possible modes of dispersion) up the west coast over the next few years. In other places, it is already exerting strong effects on native species by competing for space. The Applicant is advised to give consideration to the risks of introduction of this species via activities associated with the tidal barrage.

Chapter 10: Fish and Shellfish

Generally, we agree with the scope for freshwater and diadromous fish. However, we have concerns regarding the specifics of the approach. Given the size, complexity and novel nature of the scheme, that the precautionary principle must be taken when assessing the impact on fish. The impacts of the cooling system have not been identified as a likely significant effect and we also have some concerns about the effectiveness of the embedded environmental measures to prevent entrainment and improve fish passage.

Baseline Assessment

Study Area

The study area only extends as far as the tidal limit of the River Mersey. We believe that the entire River Mersey should be considered in the scope of the EIA. The diadromous fish species found in the Mersey use habitat for spawning above the tidal limit. With the scheme, there is the possibility that fish will be delayed in their migration, or not reach as far upstream. As a result, the use of habitat for spawning and / or juvenile development may change or inhibit the size of population within the Mersey.

We are pleased to see that the extent of the study area includes the Ribble and Alt estuary. Our records show that sea trout and European smelt are present here, so these populations should be scoped into the EIA. In addition, the Ribble and Alt estuary populations of lamprey species and Atlantic salmon should be scoped into the Habitat Regulations Assessment (HRA) when assessing the impacts on both the Dee Estuary SAC and the River Dee and Bala Lake SAC. There is evidence to suggest that the River Ribble Atlantic salmon stocks and possibly lamprey stocks, mix with the River Mersey,

Dee Estuary SAC and River Dee and Bala Lake SAC⁴. To assess whether the proposal will cause an adverse effect on the integrity of these European sites, the Atlantic salmon and lamprey stocks of the River Ribble, River Mersey and River Dee should be considered. And to that end, baseline data for diadromous fish species should be collected for the River Ribble and River Dee.

Fish Monitoring

Sufficient baseline data will be required to calculate the level of entrainment and impingement caused as a result of the turbines within the barrage. We expect to see targeted eel (which doesn't appear to be listed in Table 10-12) and Atlantic salmon monitoring to inform the baseline. Table 10-3 'Consultation Comments' states that a camera trap will be installed at Woolston Weir, but it is not mentioned again in the report. Additionally, we expect to see eel and salmon monitoring to continue post-construction whilst the barrage is operational. Post construction monitoring is required to understand whether the project is having a long-term impact on the eel and salmon populations in the Mersey, especially when considering changes with climate change.

To evaluate any change, good baseline data is required. It is a legal requirement for the development to comply with the Eels (England and Wales) Regulations 2009 and Salmon and Freshwater Fisheries Act 1975, particularly in relation to the safe passage of fish through or over the structure. This should be clearly noted in the EIA.

Migration Periods

Paragraph 10.6.14 describes adult salmon returning to freshwater from September to November. This is an unrealistically narrow window of adult upstream migration for UK rivers, although we note that Table 10.9 better recognises the period of adult salmon migration being from mid-March through to December. Should the text or the table be referenced in isolation, they could provide a misleading description, and we recommend that identifying February through to December as the potential adult salmon migration period would be pragmatic.

Sea trout are referred to in the text but not included in Table 10-9, which shows key sensitivity months for Diadromous species. We recommend that a sea trout smolt emigration period from March to May, and an adult sea trout upstream migration period spanning March to September be included. As a coastal species, there is reasonably high potential for sea trout to be present in and around the estuary throughout the year.

Similarly, European smelt are referenced in paragraph 10.6.15 but are not included in Table 10-9. We recommend they are included in this table that smelt surveys are focused on the upper estuary where juveniles occupy nursery areas around the saline transition zone.

Twaite and allis shad are mentioned in paragraph 10.6.16 as being present in the River Dee and Dee Estuary, but not in the Mersey. Given how close the Dee Estuary is to the Mersey, it is our opinion that shad species in the Dee may use the Mersey estuary. Shad species should therefore be scoped into the EIA.

Fish Survey Periods

Table 10-12 suggests fish surveys are completed quarterly over a 1-2 year period. We

⁴ Priede, I.G., Solbé, L.G., Nott, J.E., O'Grady, K.T., Cragg-Hine, D. (1988) 'Behaviour of adult Atlantic salmon, *Salmo salar* L., in the estuary of the River Ribble in relation to variations in dissolved oxygen and tidal flow' *Journal of Fish Biology*, 33(sA), pp. 133-139

recommend that the survey period should be 2 years at a minimum. This will ensure better characterisation of fish populations when taking into account year upon year changes in weather and tidal patterns. We also question whether a survey frequency of quarterly will give a true representation of the baseline and capture seasonal changes and peaks in migration. We therefore recommend more frequent surveys are considered.

Otter Trawls

We disagree that otter trawls should be scoped out. For a scheme of this size, every effort should be made to ensure reliable, accurate baseline data. In paragraph 10.6.8, it is stated that there were nearly two decades of beam and otter trawling at the mouth of the estuary. To achieve consistency in the baseline data set, it is necessary to continue this data set by adding additional otter and beam trawls (as well as other survey methods mentioned) to the survey effort in Table 10-12.

Future Baseline

Paragraph 10.8.2 confirms that the future baseline conditions of the environment will be considered in the EIA. This is especially important for Atlantic salmon, whose populations are now listed as endangered in the UK by the International Union for Conservation of Nature. With warming waters and potentially reduced dissolved oxygen levels, the impact of this scheme will be more significant given future climatic predictions.

It is advised that the EIA considers the future baseline of the catchment ecology that would exist, should the project not proceed. The future baseline should consider the current status of Atlantic salmon recovery in the Mersey and the impact this project is likely to have on future recovery. Successes have already been achieved through the Mersey salmon and sea trout Catchment Management Plan in providing new freshwater spawning and juvenile habitats throughout the catchment. The utilisation of such habitats is likely to increase given that Mersey salmon are a recovering population, whose future trajectory has a strong potential for growth.

Embedded Mitigation

The effectiveness and appropriate use of deterrents, as identified in paragraph 10.10.8 as potential embedded mitigation measures, is questionable, as incoming glass eel and departing smolt (and no doubt other species) travel through the estuary using selective tidal stream transport. Such 'passive' movement with flow rather than active swimming and route selection, is essential to young life stages as they navigate the estuary. Deterrents may therefore be ignored where selective tidal stream transport is used and may even disrupt the important role that selective tidal stream transport provides in allowing efficient passage through the estuary.

Likely Significant Effects

Impact of Coolant System

Paragraph 2.4.19 states that a cooling water system will be required for the turbines. The effect on fish from this system has not been identified as a potential impact and should be scoped into the EIA. Any abstraction may impact fish through entrainment to pumps or impingement on screens. Additionally, discharge may cause changes in the thermal properties of the ambient water and/or reduce the dissolved oxygen level, which in turn may impact on fish.

Entrainment

We are pleased that 'entrainment and injury from turbine and sluice structures' has been identified as a potential impact and scoped in for further assessment. It should be noted that the barrage must be compliant with the Eels (England and Wales) Regulations 2009. Paragraph 2.4.16 states that a debris screen maybe required in front of the draft tube. Without a screen that is compliant with the Eels Regulations there is an increased chance that European eel (and other protected migratory fish) will be entrained into the path of turbines. This could lead to collision with the turbine blades and significant harm or death to individuals. Paragraph 2.7.5 states that turbines can operate at slower speeds in order to improve fish passage. It is our opinion that this will not offer sufficient mitigation to reduce the impact on fish species to negligible. Whilst designs of turbines may be optimised to maximise survival from passage through the barrier, loss of animals may still be contrary to the requirements of legislation and/or act as a threat to size or viability of populations. Since barrier design is already being modified to allow vessel passage across the barrier, the design should also accommodate facility to allow unimpeded fish passage. If the route through the tidal barrage is to be via 'fish acceptable' turbines, then detailed fish strike rate modelling should form a part of any through turbine passage proposal.

Changes to Fish Behaviour

There is evidence that fish actively avoid turbines due to noise and changes in flow, and in some cases are attracted to the wake of turbines⁵. We are pleased to note that 'barrier to migration, changes in migratory cues and passage routes' has been identified as a potential impact and is scoped in for further assessment for the operation and maintenance phase, as the impact on populations of fish as a result of a behaviour response must be calculated and assessed in the EIA. Paragraph 2.11.4 notes that dedicated fish passage will not be included in the design of the barrage and that the hydro-control system will be relied upon as suitable means of fish passage. The design of the barrage must be compliant with the Salmon and Freshwater Fisheries Act 1975 and allow free passage for salmonids. We have concerns that this could cause diadromous fish to: i) delay or miss the critical windows of opportunity for migration, ii) increase estuarine residence times and be exposed to poor water quality in warmer months, iii) be increased to predation exposure, and iv) change migratory behaviour due to influences of the barrage on tidal regimes and flows, which in turn may reduce spawning success. The EIA should calculate the impact on diadromous fish populations from these impact pathways. We believe the design of the barrage should maximise fish migration.

However, this impact has not been considered for the construction and decommissioning phases. During construction there will be some size of structure in place which will get progressively bigger as it is built. The same is also true for decommissioning, but the structure may get progressively smaller. The structure at any size or shape could become a barrier to fish migration or cause changes in migratory cues and passage routes for diadromous fish. We therefore believe this should be considered a likely significant affect across all phases of the development and should

⁵ Copping, A.E., Hemery, L.G., Viehman, H., Seitz, A.C., Staines, G.J., Hasselman, D.J. (2021) 'Are fish in danger? A review of environmental effects on marine renewable energy on fishes' Biological Conservation, 262

Bevelhimer, M.S., Scherelis, C., Colby, J., Tomichek, C., Adonizio, M. (2015) Fish behavioral response during hydrokinetic turbine encounters based on multi-beam hydroacoustics results. In: Paper Presented at 3rd Marine Energy Technology Symposium (METS), Washington DC, USA

Fraser, S., Williamson, B.J., Nikora, V., Scott, B.E. (2018) 'Fish distributions in a tidal channel indicate the behavioural impact a marine renewable energy installation' Energy Reports, 4, pp. 65-69

also be scoped in for the HRA. We note that decommissioning has been scoped out of the assessment and a Decommissioning Plan is proposed (Commitments Register - OM10). This should be supported by an Decommissioning environmental management Plan (DEMP).

Noise

We disagree that the impact on fish from noise associated with increased vessels (due to construction and decommissioning) should be scoped out. The reason for scoping out is based on fish avoiding increased noise levels from vessels, which assumes that all fish species can perceive the source of noise. This is not true for poor hearers such as Atlantic salmon that are only sensitive to particle motion rather than particle motion and sound pressure. This means they have a relatively narrow bandwidth of hearing⁶. It is likely that Atlantic salmon will show scatter behaviour which, when combined with other construction associated noises, could delay migration. We therefore believe the impacts on fish from noise associated with increased vessels should be scoped in.

For the grid connection, where cables are proposed to cross watercourses, the impact on fish from noise associated with vibration from HDD should also be included in the assessment.

Dredging

We note that 'entrainment from draghead (dredging)' has been scoped in for further assessment across all phases. Any dredging activities that take place during construction, operation (maintenance) and decommissioning must be compliant with the Eels Regulations 2009. European eel are present in the estuarine environment all year round in both the water column and within the benthos. Suction dredging and water injection dredging are known to impact eels through entrainment into pumps and damage to fish through shear stress from high velocity water jets. Dredging should consider the use of backhoe methods, which is less impactful to eels due to not having a water diversion structure. Should suction dredging or water injection methods be used, then an exemption from the Eels Regulations issued by the EA maybe required. The issuing of this exemption will be based on a suitable mitigation plan being submitted.

Although dredging is not explicitly stated as a source, 'increased levels of suspended sediments and sediment deposition / erosion' has been identified as a likely significant effect. The assessment should also consider the change in water quality as a result of such significant dredgings. Uprisings and sediment plumes because of dredging could have a significant impact on fish species, particularly diadromous species. Such impacts may include avoidance behaviour, impacts to physiology and delays on key migratory timings.

Electro-Magnetic Fields

We are pleased to see that 'creation of electro-magnetic field effects' has been scoped in for further assessment. The scope of the electro-magnetic field (EMF) assessment on fish should include cables crossing under watercourses. Studies have found that EMFs can affect individual organisms during embryonic and larval stages. Sea lamprey and river lamprey spend their juvenile stages on the bed of the river (normally in silty areas). As such, this could lead to localised impacts on any fish near the power cables, where there could be an increase in EMF. Additionally, the migratory species (Atlantic salmon,

⁶ Popper, A.N. and Hawkins, A.D. (2019) 'An overview of fish bioacoustics and the impacts on anthropogenic sounds on fishes' *Journal of Fish Biology*, 94, pp. 692-713

brown/sea trout, European smelt, European eel) present in the River Mersey may be affected by any increase in EMF. Levels of EMF at the riverbed should be at a level not likely detectable by receptor fish species.

Receptor Specific Modelling

Overall, we agree with the approach detailed in paragraphs 10.11.0 to 10.11.5 of the receptor specific modelling. The Juvenile Fish Loss Assessment should incorporate fish that would go on to spawn multiple times in a lifetime. The significance of juvenile fish being lost from the system as a result of the scheme increases where those species spawn more than once in their lifetime, and thus has more of an impact on the ultimate recruitment in that population. The approach to receptor specific modelling should also be used in the HRA.

Encounter Risk Modelling and Collision Risk Modelling should incorporate the risk of multiple passes per individual, particularly where an initial pass causes disorientation or other sub-lethal effects. This is important, particularly where two-way generation is used.

Chapter 13: Terrestrial Ecology and Biodiversity

We note that this issue will need to be assessed further as the potential route corridors for Grid Connection are defined, but we support the baseline assessment and assessment methodology proposed. We do think that transboundary effects need further consideration.

Embedded Environmental Measures

Biodiversity Net Gain

We support the Applicant's intention to provide 10% minimum Biodiversity Net Gain (BNG) for this project (Commitments Register – 13-7). We advise early engagement with us to ensure that the right biodiversity net gains are in the right places and enable a range of objectives to be aligned to deliver multifunctional benefits.

The watercourse Metric is an opportunity to deliver watercourse enhancements. BNG should be aligned with River Basin Management Plans, Local Nature Recovery Strategies (LNRs), WFD objectives/mitigation measures, and Catchment Plans⁷. There is also the opportunity to incorporate the Nature Improvement Areas and Core Biodiversity Areas mentioned in paragraphs 13.6.15 and 13.6.16 of the Scoping Report.

Useful guidance on BNG can be found here:

- Technical Guidance – BSI Standards Publication BS 8683:2021 – Process for designing and implementing Biodiversity Net Gain – Specification
- The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024⁸ – particularly in terms of the intertidal BNG.

Likely Significant Effects

We want to see evidence that the impacts at the Port and Marine Facilities would not be a notable change to the current baseline to ensure this matter can be scoped out, we believe this should be scoped in to ensure this.

⁷ <https://www.merseyrivertrust.org/index.php/projects/caba>

⁸ [The Biodiversity Gain Requirements \(Irreplaceable Habitat\) Regulations 2024 \(legislation.gov.uk\)](https://www.legislation.gov.uk)

Transboundary Effects

Many terrestrial species are mobile (locally or migratory), populations are also intrinsically linked to each other (meta populations for example) and therefore we do not agree that transboundary effects can be scoped out at this stage. The potential impacts of the barrage are also likely to have impacts on stretches of watercourse outside of the scoping boundary, and this should be scoped in for further assessment.

Chapter 19: Water Resources and Flood Risk

No part of the Tidal Barrage Development Area is located within a Source Protection Zone (SPZ), with the closest being Zone III (Total Catchment) approximately 300m west of this area. However, a significant proportion of the central and western part of the Grid Connection Development Area lies within SPZ3, with SPZ2 (Outer Protection Zone) and SPZ1 (Inner Protection Zone) also occurring within the area boundary. There are also numerous groundwater abstraction licences within the region, including the Scoping Boundary area. As such, this is a highly sensitive site for groundwater. We note that private abstraction information was not available for this scoping exercise, but that it will be given consideration. We agree with the embedded measures proposed to protect groundwater, but consider that Hydrogeological Risk Assessments should be produced for activities that may affect groundwater flow. We would also like to see an outline and full Operation Environmental Management Plan (OEMP) submitted in addition to the CEMP.

Overall, we support the scoping in of water quality for further assessment. We would like to encourage the Applicant to continue to engage with us to develop the assessment methodology and identify appropriate mitigation. We have also provided a list of potential impacts that have not explicitly been mentioned, but will need to be considered.

We have raised some concerns regarding the study area proposed in relation to flood risk. We are, however, pleased to note that the project will be supported by a detailed FRA, and this will need to include detailed flood modelling of the proposed development. There are likely to be significant impacts to the Mersey estuary and flood water levels. Suitable mitigation will need to be assessed and implemented. Full consideration will need to be included for climate change over the full operational lifetime of the development.

Study Area

We note that the study area for impacts appears to be focused on the area downstream of the proposed Tidal Barrage, i.e. considering downstream impacts only. The scope of the impact assessment should be extended upstream at least as far as the upper tidal limit on each tributary and drain. The tidal limit of the River Mersey is noted to be at Howley Wier in Warrington. Paragraph 19.3.6 states that the study area for flood risk and drainage will be 1km from the scoping boundary. It is important that this extends to beyond the tidal limit in order to assess upstream impacts on water levels.

Assessment of Effects

Paragraph 19.6.1 describes how the Design Manual for Roads and Bridges (DMRB) will be used as a framework for assessing impact sensitivity and magnitude. Please note the impact classification presented within the DRMB is slightly at odds with the National Planning Policy Framework (NPPF), which details that there should be no increases to

flood risk elsewhere because of new development. Any impacts to flood risk will need to be reviewed on a case-by-case basis as the spatial extent of any increase is also an important consideration not just the magnitude of any increase in peak water levels.

Furthermore, considerations around modelling precision may also influence what is classed as an observable increase or impact versus what might be attributable to model precision limitations and instability. There is a section on the impacts on off-site flood risk within the guidance on undertaking modelling for flood risk assessments which should be consulted and provides some useful considerations. This is available online⁹.

Baseline Conditions

Flood Defences

19.7.23 refers to flood defences as 'engineered and natural high ground'. The FRA, or a separate assessment, should include full details of all flood defences and associated assets within the study area. This should include their current condition, crest levels, standard of protection. This will allow assessment of potential impacts to defences and any mitigation required, taking the development and climate change into account, to ensure that flood risk is not increased over the proposed development lifetime.

Flood Risk Activity Permits

19.7.40 refers to grid connection route options within the scoping boundary. Full details of these will be reviewed in due course, but the principles of construction methodology will need to consider requirements for Flood Risk Activity Permits (FRAPs). Where Main River crossings are required, FRAPs will need to assess the proposed construction methodology and relevant mitigation measures. We note from the Commitments Register the intentions to use trenchless techniques for cable installation across rivers (13-2), avoid works within 10m of a watercourse (19-11 and 19-12) and for restrictions to be in place to avoid impacts on the floodplain wherever possible (19-1).

Private Water Abstractions

Paragraph 19.7.76 states that information regarding private groundwater abstractions were not available for the preparation of the Scoping Report but will be requested for inclusion in the Environmental Statement. We are pleased to see that effects on private abstractions from the project will be considered.

Future Baseline

Paragraph 19.8.7 notes that the barrage will be designed to account for climate change and include flood resilience measures. Given the length of the construction period (7-10 years) it is also important to consider the impacts of climate change on sea level during the construction phase of the project. As noted in section 19.8.2, guidance on climate change allowances for different epochs and development types is available online¹⁰. As this is a Nationally Significant Infrastructure Project it would also be sensible to test a credible maximum scenario. In the context of sea level rise this would be the H++ scenario plus an allowance for surge for tidal design events.

Embedded Environmental Measures

We note from the Commitments Register in Appendix 3.1, that a CEMP will be

⁹ [Using modelling for flood risk assessments - GOV.UK \(www.gov.uk\)](https://www.gov.uk)

¹⁰ [Flood risk assessments: climate change allowances - GOV.UK \(www.gov.uk\)](https://www.gov.uk)

produced (OM1). Table 19-5 lists the embedded environmental measures and states that if dewatering is required, a Groundwater Management Plan (GMP) will be developed as part of the CEMP to ensure that groundwater abstracted during the construction phase will be appropriately managed. Shallow groundwater may be encountered in some areas of the site, and we are pleased to see this consideration in the Scoping Report. Additional information about dewatering and associated permit requirements is provided later in this response.

We consider that Hydrogeological Risk Assessments should be produced for any proposed activities or subsurface structures likely to impact local or regional groundwater flow, including soil treatment and any Horizontal Direct Drilling, piling or other deep foundation works within the on-site Aquifers.

Likely Significant Effects

Table 19-6 presents a summary of likely significant water environment effects relating to the project, and identifies which of these are proposed to be scoped in.

Flood Risk

We agree that construction phase activities will also need to be assessed relating to flood risk. Construction has the potential to increase flood risk and will also require FRAPs for a variety of associated activities. Mitigation measures will need to be included for construction activities, i.e. cofferdams within the river. These will have a significant impact on flows and will therefore impact flood levels within the estuary.

The risk of flooding at grid connection points will need to be assessed, and critical infrastructure elements must include mitigation to ensure flood protection to the design flood level, including full assessment of climate change.

Groundwater

We are pleased to see that effects from dewatering during the construction, operation & maintenance, and decommissioning stages on groundwater flows and levels, the SPZs and Drinking Water Safeguard Zones have been considered and scoped in, and that private abstractions will be identified and considered in future submissions. The embedded measures listed include the implementation of a CEMP and environmental permits.

However, we would like to see Groundwater SPZs (in relation to Activity & Impact no.6) and all licenced and unlicenced groundwater abstractions specified as receptors (in relation to Activity & Impact nos. 5 and 6) alongside the Principal and Secondary Aquifers.

Production and implementation of outline and full OEMP and DEMP should be included as embedded measures in relation to Activity & Impact nos.1 and 6 if the potential exists for dewatering to occur during these phases of the project.

See also the Environment Agency's approach to groundwater protection, position statements¹¹.

Table 19-6 also considers the effects of pollution from spillages, material storage and increased turbidity, and from excavation and/or dewatering near polluted sources, on

¹¹ [Groundwater protection position statements - GOV.UK \(www.gov.uk\)](http://www.gov.uk)

Principal and Secondary (undifferentiated) Aquifers. We are pleased to see these have been scoped in, but would like to see the SPZ1, 2 and 3, and public and private water supply borehole receptors specifically included as receptors for this impact, and again consider that an OEMP and DEMP should be produced to consider any such impacts during the operational and decommissioning phases of the development.

Water Quality

Although Table 19-6 summarises the impacts on water quality which will be assessed, it is unclear exactly which impacts will be investigated further. We would like to draw the Applicant's attention towards the following aspects of the development which should be incorporated into the assessment so that appropriate mitigation can be identified:

Potential Construction Impacts:

- Impacts of dredging and/or soil treatment activities described in Sections 2.5.4, 2.5.21 and 2.5.22.
- Construction of any coffer dam structures and any associated dewatering discharges. For example, as described in Sections 2.5.6 and 2.5.8.
- Impacts of sewage effluent being produced by construction staff. If sewage will be disposed via the public foul sewer, then impacts on the local sewerage system should be assessed. Any new treatment and discharge systems will require an environmental permit.
- Impacts from other construction activities, including surface water run-off from areas of exposed soil and stockpiles.

Potential Operational Impacts:

- Impacts of the auxiliary equipment described in Section 2.4.18. This includes firefighting equipment (and any effluent/water produced in the event of a fire), dewatering pumps and the oil treatment system.
- Impacts of the cooling water system described in Section 2.4.19.
- Impacts arising from the change in tidal range once the barrier is in operation (described in Section 2.7.7).
- Impacts of operational dredging activities described in Section 2.7.16.
- The possibility of surface water drainage along the length of the barrier to become contaminated, and associated impacts and mitigation (Section 2.7.19 confirms that this will be discharged directly into the Mersey Estuary).
- Potential impacts on the foul sewer network because of connection to foul sewer for operational welfare facilities (confirmed in Section 2.7.18).

Please note that this list is not exhaustive, and additional aspects of the project should be incorporated into the assessment if there is a risk of impacts on water quality.

Chapter 21: Air Quality

Where development involves the use of any non-road going mobile machinery with a net rated power of 37kW and up to 560kW, that is used during site preparation, construction, demolition, and/ or operation, at that site, we strongly recommend that the machinery used shall meet or exceed the latest emissions standards set out in Regulation (EU) 2016/1628 (as amended)¹². This shall apply to the point that the machinery arrives on site, regardless of it being hired or purchased.

This is particularly important for major development located so close to Air Quality Management Areas, for oxides of Nitrogen (NO_x), and or particulate matter that has an

¹² [Regulation \(EU\) 2016/1628](#)

aerodynamic diameter of 10 or 2.5 microns (PM10 and PM2.5). Use of low emission technology will improve or maintain air quality and support local authorities and developers in improving and maintaining local air quality standards and support their net zero objectives.

We also advise, the item(s) of machinery must also be registered (where a register is available) for inspection by the appropriate Competent Authority, which is usually the local authority.

Non-Road Mobile Machinery includes items of plant such as bucket loaders, forklift trucks, excavators, 360 grab, mobile cranes, machine lifts, generators, static pumps, piling rigs etc. The Applicant should be able to state or confirm the use of such machinery in their application.

Chapter 23: Geology & Ground Conditions

We agree with the baseline assessment and support the assessment methodology proposed for this topic. However, we disagree with the initial assessment that risks to groundwater are 'Moderate'. We have suggested some specific impacts that will need to be considered, some additional environmental measures that could be embedded into the scheme and have provided additional advice relating to cable installation within source protection zones, the potential need for environmental permits, and sustainable drainage systems.

Assessment Methodology

The proposed assessment methodology outlined in sections 23.5.3 and 23.5.4 includes the production of more detailed geo-environmental desk study reports and ground investigation in accordance with the recommendations of the EA's Land Contamination Risk Management guidance¹³, which will build on the existing Conceptual Site Model. We welcome this and look forward to reviewing it in due course. These are not included in Section 3.11 Other Supporting Assessments, a list of standalone assessments to support the Development Consent Order application and we would like to ensure they are not missed.

Initial Conceptual Site Model

A Conceptual Site Model (CSM) is presented in Section 23.7. This is based on a limited review of publicly available information and existing reports pertaining to historical and current land uses and the site setting.

The list of sources stated for the Tidal Barrage Development area includes current and historic industrial activities, the presence of artificial ground associated with dock infilling and land reclamation, sediment and saltmarshes. The stated contaminants of concern, which are not exhaustive, cover a suitably broad and plausible range and include radionuclides, biocides and per- and polyfluoroalkyl substances (PFAS).

The list of sources stated for the Grid Connection Development area includes current and historic industrial activities, general localised urban development, authorised and historic landfills along the banks of the Mersey and wider Wirral and Liverpool areas. The listed contaminants of concern are similarly broad, reflective of the range of possible contamination sources. We would like to see the list of contaminants of concern to be assessed during exploratory investigations revised based on the findings of further Desk Based Assessment once the project study area has been refined.

¹³ <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>

Potential receptors and pathways are listed in Section 23.7.4. We are pleased to see that the superficial and bedrock aquifers have been acknowledged as potential sensitive receptors for the construction phase, along with specific reference to SPZs. Leaching of contaminants through the unsaturated zone and subsequent impact to groundwater within the underlying Aquifers, along with lateral migration of contaminants (including surface run-off), are identified as potential pathways impacting Controlled Waters (surface and ground water). We would also like to see the following for completeness:

- Receptors: include all licenced and unlicenced groundwater abstractions
- Pathways: Controlled waters - include risk of vertical migration of mobile contaminants into the Principal Aquifer, risk of lateral migration within aquifers to groundwater abstractions.

Section 23.7.5 the preliminary risks to receptors have been identified. The initial risk to Controlled waters (groundwater aquifers and surface water) is listed as 'Moderate'. We consider the risk to groundwater to be initially 'High'. A Principal Aquifer underlies the majority of the site, a sizeable area of which falls within SPZ1, 2 and 3 relating to current potable water abstraction. In the absence of a proposed development layout, the extent to which the proposals would require construction within the footprint of the SPZ is unclear.

Embedded Environmental Measures

Table 23-10 lists the embedded environmental measures for geology and ground conditions. We would like to see the inclusion of a discovery strategy for unexpected contamination, or a contamination watching brief and action plan, for the construction and decommissioning phases. This could be included within the CEMP and DEMP.

Foundation details for proposed onshore structures, including methods and depths, are currently undefined. We are pleased to see that potential requirements such as piling risk assessment for piled structures would be implemented ahead of construction. Given the sensitive hydrogeological setting, a Foundation Works Risk Assessment should be produced for proposed structures with deep and/or piled foundations overlying Secondary A and Principal Aquifers should be produced.

No reference is made in the Scoping Report to the production of an OEMP for the project. We would suggest that an Outline OEMP should form part of the DCO submission supporting materials. In addition, Section 2.8.3 states that a Decommissioning Plan (including environmental management) will be prepared at the appropriate time to consider the potential risks of decommissioning the relevant elements of the project. The Scoping Report does not consider the effects of decommissioning, and no reference to an outline or full DEMP is provided. We would suggest that the effects of decommissioning should be considered in the Scoping Report, that effects on groundwater arising from this activity should be scoped in, and an Outline DEMP should form part of the DCO submission supporting materials.

Likely Significant Effects

In Table 23-11 we would like to see the following items added to the list of potential receptors:

- Principal and Secondary Aquifers;
- SPZs 1, 2 and 3;
- Licenced and unlicenced groundwater abstractions; and
- Surface water.

We are pleased to see that the effect of construction (development on brownfield sites, potential to encounter contaminated material, and potential to mobilise and create preferential contaminant pathways) on controlled waters has been scoped in.

A requirement for further baseline data to be acquired via Phase 1 preliminary environmental assessment and intrusive ground investigation is also presented. We welcome this position and consider that this item should be clarified to make it clear that the controlled water receptors include aquifers, SPZ and surface water. We also consider the list of likely significant effects should include:

- Effects during construction and decommissioning activities resulting from spills and leaks;
- Effects during the operational phase relating to mobilisation of contaminants resulting from changes in groundwater levels and flow characteristics due to changes in tidal dynamics; and
- Effects during the operational phase relating to raised water levels upstream of the barrier causing an increase in the drainage base of tributaries, sewers, road drains and groundwater, such as changes to saline intrusion and effluent discharges.

We note that in altering tidal dynamics via the operation of the tidal barrage, specifically raising water levels within the estuary, the proposed development may locally alter the drainage base in tributaries, sewers, road drains and groundwater, which could result in a range of impacts. We would like to see that the potential impacts from this on groundwater quality have been considered, including but not limited to:

- Damage to landfill containment and flood defence infrastructure via changes to erosion patterns;
- Increased leachate generation and mobilisation in unsealed landfills and infilled docks;
- Increase to saline intrusion into aquifers;
- Reduced pollutant attenuation due to reduced unsaturated zone thickness; and
- Impacts on effluent discharges, including saturation of landfill leachate management systems.

Additional Advice

Installing cables through a landfill site poses risks to controlled waters which are not adequately mitigated in this report. The type of cables to be used in the scheme have not been specified. In accordance with Position Statement C5 of our Approach to Groundwater Protection, we will normally object to fluid filled cables that transport pollutants, particularly hazardous substances that pass through SPZ1 or SPZ2 where this is avoidable or are below the water table in Principal or Secondary Aquifers. Where there is an unavoidable need for fluid filled cables to pass through SPZ1 or SPZ2, operators are expected to adopt Best Available Techniques and operate in accordance with the Energy Networks Association guidance.

The Geology and Ground Conditions chapter primarily focuses on the onshore components of the project but acknowledges that the construction of the Tidal Barrage may require stabilisation of the estuary bed, and that this will be assessed and defined further as the project progresses.

Environmental Permits

If dewatering is required, the Applicant may require an abstraction licence if it doesn't meet the exemption in The Water Abstraction and Impounding (Exemptions) Regulations 2017 Section 5: Small scale dewatering in the course of building or

engineering works.

If the Applicant does not meet the exemption and requires a full abstraction licence, they should be aware that some aquifer units may be closed for new consumptive abstractions in this area. More information can be found on our website for abstraction licensing strategies (CAMS process)¹⁴ and applying for a water abstraction or impounding licence¹⁵.

Please note that the typical timescale to process a licence application is 9-12 months. The Applicant may wish to consider whether a scheme-wide dewatering application rather than individual applications would be beneficial. We suggest talking to our National Permitting Service early in the project planning.

Temporary dewatering of wholly or mainly rainwater that has accumulated in an excavation may be exempt from an environmental permit for a Water Discharge Activity. More information can be found on our website¹⁶. Note that this does not permit discharge of groundwater from a passive or active dewatering activity or permit the abstraction of groundwater.

The Applicant should be aware that several activities discussed within this scoping report may constitute a water discharge activity and therefore require an environmental permit. The Applicant should refer to Schedule 21 of the Environmental Permitting (England and Wales) Regulations 2016 to identify which activities will meet the criteria for a water discharge activity. We would like to encourage the Applicant to engage with our permitting pre-application advice service as early as practicable to ensure that permit applications do not pose a risk to project delivery or timeframes.

The Applicant may also need to consider discharge of groundwater, especially if it is contaminated. More information can be found on our website¹⁷.

The use of drilling muds for any necessary directional drilling may require a groundwater activity permit unless the 'de minimis' exemption applies. Early discussion about this is also recommended.

Sustainable Drainage Systems

The Government's expectation is that sustainable drainage systems (SuDS) will be provided in new developments wherever this is appropriate. We support this expectation. Where infiltration SuDS are to be used for surface run-off from roads, car parking and public or amenity areas, they should:

- be suitably designed
- meet Governments non-statutory technical standards for sustainable drainage systems – these standards should be used in conjunction with the NPPF and Planning Practice Guidance (PPG)
- use a SuDS management treatment train – that is, use drainage components in series to achieve a robust surface water management system that does not pose an unacceptable risk of pollution to groundwater

Where infiltration SuDS are proposed for anything other than clean roof drainage in a SPZ1, a hydrogeological risk assessment should be undertaken, to ensure that the system does not pose an unacceptable risk to the source of supply.

¹⁴ [Abstraction licensing strategies \(CAMS process\) - GOV.UK \(www.gov.uk\)](http://www.gov.uk)

¹⁵ [Apply for a water abstraction or impounding licence - GOV.UK \(www.gov.uk\)](http://www.gov.uk)

¹⁶ [Temporary dewatering from excavations to surface water: RPS 261 - GOV.UK \(www.gov.uk\)](http://www.gov.uk)

¹⁷ <https://www.gov.uk/guidance/discharges-to-surface-water-and-groundwater-environmental-permits>

See the EA Approach to Groundwater Protection, position statement G13.

Unless the supporting risk assessments show that SuDS schemes in SPZ1 will not pose an unacceptable risk to the drinking water abstraction, we will object to the use of infiltration SuDS under position statement G10.

Chapter 29: Climate Change Resilience

We'd like to see the project think about further upstream work, eg. natural flood management, to help protect the area from flooding, rather than just concentrating on coastal impacts.

Future Baseline

Paragraph 29.7.1 states that UKCP18 projections have been used to infer future changes in a range of climate variables. There are a number of different climate projections available, so we're interested in understanding why these particular projections have been chosen.

Future baseline impacts relating to climate change are also discussed in the Water Resources and Flood Risk chapter (section 19.8). Sea level rise and peak river flows are set out in line with current EA guidelines, but with the project lifetime at 120 years, further consideration will need to include longer term climate change impacts.

Paragraph 29.7.3 refers to climate change data to 2100, and a data shortfall for the 120-year design life, and paragraph 29.7.15 discusses sea level rise, with marine projection data to 2100 extrapolated to 2158. UKCP18 data is available to 2300, but this has not been used. Full assessment and discussion of this and a comparison of results should be included within the FRA. Suitable assessment and allowance of climate change for the full 120-year design life must be included.

In accordance with the PPG, a credible maximum climate change scenario will also need to be considered within the FRA. This may form a sensitivity test scenario for the proposed development.

Embedded Environmental Measures

Paragraph 29.10.33 describes how the construction phase has been scoped out for all climate variables. Given the duration of the construction phase (7-10 years) and a potential end completion date of 2038 it would be prudent to ensure the effect of climate change on sea level is accounted for during the construction phase.

Paragraph 29.10.34 describes how change in annual precipitation for ancillary buildings has been scoped out of the assessment for the operational phase of the development. Table 29-16, however, describes how extreme precipitation has been scoped in for the operational phase with respect to ancillary buildings. To confirm, the effects of climate change on design event precipitation should be scoped into the assessment for ancillary buildings during the operational phase of the development.

Chapter 30: Materials and Waste

We support the commitment to produce a Waste Management Plan and Materials Management Plan (Commitments Register – 30-4). We note and agree with the embedded environmental measures in relation to waste, although we refer the Applicant

to our comments made above on the Coastal Processes chapter in regard to marine disposal sites.

We are pleased to note that the Applicant has included material re-use in line with the CL:AIRE Definition of Waste: Development Industry Code of Practice as an embedded measure. This voluntary Code of Practice provides a framework for determining whether excavated material arising from site during remediation or land development works are waste.

Developers should ensure that all contaminated materials are adequately characterised both chemically and physically, and that the permitting status of any proposed on-site operations are clear. If in doubt, the EA should be contacted for advice at an early stage to avoid any delays. We recommend that developers should refer to Position statement on the Definition of Waste: Development Industry Code of Practice.

Contaminated soil that is, or must be disposed of, is waste. Therefore, its handling, transport, treatment and disposal is subject to waste management legislation, which includes:

- Duty of Care Regulations 1991
- Hazardous Waste (England and Wales) Regulations 2005
- Environmental Permitting (England and Wales) Regulations 2010
- The Waste (England and Wales) Regulations 2011

Developers should ensure that all contaminated materials are adequately characterised both chemically and physically in line with British Standards BS EN 14899:2005 'Characterisation of Waste - Sampling of Waste Materials - Framework for the Preparation and Application of a Sampling Plan' and that the permitting status of any proposed treatment or disposal activity is clear. If in doubt, the Environment Agency should be contacted for advice at an early stage to avoid any delays.

If the total quantity of waste material to be produced at or taken off site is hazardous waste and is 500kg or greater in any 12-month period, the developer will need to register with us as a hazardous waste producer.

APPENDIX 3.4 WFD SCREENING & SCOPING REPORT

Overall, the screening and scoping report appears to be an appropriate precursor to a detailed WFD assessment. The Applicant should ensure that all potential effects on water quality (as discussed above in relation to the EIA Scoping Report) are considered within this assessment.

WFD Objectives

As part of our review of whether the project will prevent future attainment of 'Good Potential', we will consider the impact of the scheme on any assigned mitigation measures for this Heavily Modified Water Body, so these measures will require review as part of the future WFD Assessment. The project must not prevent the delivery of these measures and should look to contribute to their delivery where possible and to both offset project impacts and contribute to the objectives of the WFD.

Location & Context

Paragraph 2.1.5 lists the WFD protected areas within 2km of the proposed project. The Applicant should note that there is a possibility that a local application may be made for

New Brighton beach to gain bathing water designation within the design period of the project, so they should keep a watching brief on this.

Water Framework Directive Requirements

Paragraph 3.1.11 discusses the available guidance on WFD. The Common Implementation Strategy Guidance on Article 4(7)¹⁸ also remains relevant in the process of determining whether activities may cause WFD deterioration. A clear step-wise approach is outlined in the guidance to ensure a comprehensive Applicability Assessment is produced which considers all relevant receptors and data. The impact assessment should then inform design and construction to avoid deterioration and/or reduce impacts as possible.

Section 3.1.12 discusses exceptions where 'within class' deterioration of any element, which does not result in lowering of the status of that element, would not be permissible. One of the exceptions given is when the water body is in the lowest possible class (bad ecological status). Whilst this exception is accurate, the Applicant should be aware that this approach extends to all individual element statuses too, regardless of overall waterbody status. For example, if a waterbody has an ecological status of Moderate, but a Dissolved Oxygen status of Bad, then within class deterioration of Dissolved Oxygen would still not be permitted.

Paragraph 3.1.20 states that the project is unlikely to have any direct impact pathway to freshwater WFD waterbodies but notes that there could be indirect impact pathways. The barrier will alter retention time and levels of water upstream of the structure, which will alter the tidal limit, the limit of saline intrusion and the extent of mixing of fresh and saline water, so we consider that there will be direct effects of the project on freshwater bodies.

Scoping

Transitional Water Bodies: Mersey

Section 5.2.3 confirms that quality elements scoped in for further assessment.

Biology – Fish:

This section lists a range of activities associated with the project that could impact on normal fish behaviour. In addition to those identified, and perhaps more importantly, the project is also likely to have direct impacts of mortality and sub-lethal damage to fish.

Water Quality:

This section confirms that activities associated with the project may have potential direct effects on the water quality of the Mersey, including an increase in suspended sediment concentration; albeit temporary. In the longer term, suspended sediment concentration is likely to decrease to be less than baseline due to reductions in water flow and greater retention time.

Invasive non-native species:

This section discusses the potential for INNS to be spread and introduced via the use of equipment/materials introduced to the water column, and that INNS could potentially colonise introduced structures during operation. We agree that INNS have a strong positive tendency to colonise artificial structures and surfaces, large amounts of which will be provided by the project.

¹⁸ [CIS Guidance on Article4\(7\)](#)

Coastal Water Bodies: Mersey Mouth

Section 5.2.5 lists the receptors were scoped out of the requirement for more detailed assessment for the Mersey Mouth coastal water body:

Biology – habitats

This states that ‘higher sensitivity habitat including mussel bed and polychaete reef within the water body are located more than 500 m from the Project, whilst none of the water body’s lower sensitivity habitat is within the footprint of the Project’. However, polychaete reefs are heavily dependent on amounts and types of mobilised and suspended sediment. Changes to these variables caused by the project may well extend > 500m from the project and thus influence polychaete reefs.

Freshwater Water Bodies

Section 5.2.6 states that ‘impact pathways which could influence the physico-chemical quality elements, hydromorphological supporting elements, specific pollutants and chemical quality elements, will all be restricted to the tidal limit.’ As mentioned above, the tidal limit changes every tide. There are also issues/impact pathways caused by tidal locking that would have a direct effect on freshwater components, through the impoundment of water behind the barrier. These effects would be compounded beyond natural tidal locking by the increased time that the water would be impounded, due to the nature of barrier operations, and any increase in fluvial flow due to increased rainfall events due to climate change. These impacts, e.g. to hydromorphology, should therefore be considered and scoped into the WFD assessment. We cannot rely on impact pathways related to migratory fish to identify these issues, as watercourses that do not support migratory fish may also be impacted, but not identified/considered.

Table 5.1 states whether freshwater bodies are being taken forward for further assessment or being scoped out. Paragraphs 5.2.7 and 5.2.10 consider the interaction between the estuary and WFD fish classifications reliant on diadromous species. However, in Table 5.1, the waterbodies Dibbinsdale Brook and Clatter Brook, and The Birket (including Arrowe Brook and Fender), are both scoped out. Irrespective of whether the project has the potential to result in deterioration of status in the fish biological element, these waterbodies should be scoped in on the basis that they are failing their fish classification, and the proposed project may result in a future inability to achieve Good Ecological Status, through the blocking of eel.

The two waterbodies Rivacre Brook and Whittle Brook, should also be scoped in. These waterbodies are known through local intelligence and observation to support eel. The catchments have good connectivity to the estuary and the presence of eel is a requirement of the River Basin Management Plan’s support of EA Eel Management Plans. Furthermore, the lack of fish counting and classification on these waterbodies does not mean that their fish populations are irrelevant to the aspirations of the WFD and River Basin Management Plan.

Summary

Paragraph 6.1.2 states that ‘impacts to the ‘habitats’ biological quality element for the Mersey Mouth coastal water body have been scoped out of requiring further assessment.’ This exclusion should be reconsidered for the reasons given above (para 5.2.5)

We trust this advice is useful.

Yours faithfully

Miss Lizzie Griffiths
Planning Specialist – National Infrastructure Team

E-mail: Nlteam@environment-agency.gov.uk

Sent by email:

merseytidal@planninginspectorate.gov.uk

Your Ref/Eich	EN0110006
Our Ref/Ein	
Date/Dyddi	16.10.2024
Ask for/Gofynner	Hannah Parish
Direct Dial/Rhif	██████████
E-mail/e-bost	██████████ flintshire.gov.uk

Dear Sir/Madam,

SCOPING CONSULTATION

Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11

Application by Mersey Tidal Power Project (the Applicant) for an Order granting Development Consent for the Mersey Tidal Power Project (the Proposed Development)

Thank you for your consultation regarding the scope of the Environmental Statement (ES) for the above NSIP. Flintshire County Council is a neighbouring authority and is commenting upon the proposed tidal barrage across the River Mersey which would have a generating capacity of 1GW. The barrage would provide above ground connectivity between Liverpool and Wirral.

Flintshire's administrative boundaries are circa 10km southwest of the proposed Tidal Barrage Development Area and circa 3km southwest of the Grid Connection Development Area at the nearest point. It is understood that the "Rochdale Envelope" approach has been taken and that the maximum design envelope has been used at this stage. The council wish to raise the following points in relation to the proposal and the scope of the ES:

Materials and Waste

The approach to the mineral and waste assessment is broadly supported. However, given the proximity of development sites within North Wales, an assessment of the impact of the proposed development upon material resources, mineral resources and waste management capacity within North Wales is recommended (particularly for the construction phase). It would appear that these areas have been omitted from the scoping report.

County Hall, Mold. CH7 6NB
www.flintshire.gov.uk
Neuadd y Sir, Yr Wyddgrug. CH7 6NB
www.siryfflint.gov.uk

We welcome correspondence in Welsh. We will respond to correspondence received in Welsh without delay.

Rydym yn croesawu gohebiaeth Gymraeg. Ymatebwn yn ddi-oed i ohebiaeth a dderbynnir drwy gyfrwng y Gymraeg.

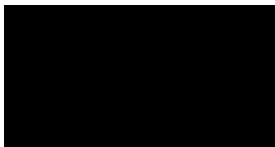


Due to the proximity of the Mersey Tidal Barrage NSIP in relation to North Wales, the proposal could have potential impacts on the steady and adequate supply of aggregates in the region in relation to the construction of the NSIP and its requirements for aggregate mineral in its construction.

Therefore, downstream impacts of the need for sand and gravel and crushed rock should be included in the scope of the ES in consideration of the proposed mineral requirements for the project. This would also assist local authorities in planning for future mineral needs. For example, information should be provided on the type and quantity of minerals expected to be required, and where it is anticipated this material will be sourced from (for example, consideration permitted reserves within existing quarries in North Wales or elsewhere, marine or recycled materials).

I trust the above comments are of assistance.

Yours sincerely



Andrew Farrow
Chief Officer (Planning, Environment & Economy)
Prif Swyddog (Cynllunio, Amgylchedd ac Economi)

To Glen Henry

Date 02/10/2024

Dept. Planning

Ref 24/08061/PREAPP

From Environment Services
Design & Development Team

Planning Consultation Response for Scoping Consultation.

NSIP EN0110006 – Mersey Tidal Power Project EIA Scoping Consultation.

Documents Reviewed (relevant sections of the following):

Scoping Report Volume 1 Chapters September 2024

Scoping Report Volume 2 Figures Chapters 1-8

Scoping Report Volume 2 Figures Chapters 9-13

Scoping Report Volume 2 Figures Chapters 16-27

Scoping Report Volume 3 Appendices

Proposal

The tidal barrage will be a permanent structure across the River Mersey providing above ground connections between Liverpool and the Wirral for the first time. It will contain multiple marine turbines that generate electricity from renewable tidal range sources. There will be a connection route/lock for shipping to pass through.

General Comments:

It is noted that HBC is outside the scoping boundary area. However, a wider estuarine area including the section through Halton is included for certain elements of the study.

The 'Approach to EIA' Chapter 3 indicates that a 'Maximum Envelope' approach will be taken, therefore potentially capturing the worst case options. This is a welcomed approach for this stage.

Construction methods and length of construction could potentially alter tidal patterns and flows leading to temporary affects (7-10years indicated construction period).

Item 3.3.8 refers to ongoing dialogue between applicant and LAs regarding the scope of future assessments. This is a welcomed inclusion.

Chapter 25 - Seascape, Landscape & Visual Impact (SLVIA), will cover an area 5km from the identified target points. The Zone of Theoretical Visibility is indicated on Figure 25.1. Section 25.1.5 confirms that methodology will be to accepted practice and follow the process set out in the Landscape Institute GLVIA 3 guidance. Table 25-1 sets out all the relevant technical guidance that will be followed.

The assessment will consider the overall consequence of the effects on the visual amenity for both seascape and landscape together and assess 'the pleasantness of the view or outlook' that the people affected enjoy.

Halton Landscape/Estuarine Potential Visual & Landscape Impacts:

Outside of the visual impacts of the new structure, there remains a possibility of permanent impacts in connection with any changes in water levels/water quality. Any alteration to tidal patterns could affect sediment erosion and deposition. The above documents have also been reviewed from this perspective.

Likely impact on receptors in the Halton section of the river and nearby associated land will result if these factors change from current conditions as a result of the proposal. Alteration to water levels; in terms of changes to mean, high and low tide, as well as changes in the length of time tides/high water may be retained by the barrage, could affect the ecology of the river and over time therefore potentially alter the landscape character locally to the river. Similarly, changes in water quality also have the potential to alter ecology and habitat types in a way that leads to changes in the local landscape character.

Summary:

It is accepted that this is a large and complex project, with emerging factors and considerations as the project and technology develops. Halton will likely see affects to landscape character from such a proposal, but currently the exact level of impact on the landscape and estuarine area are unknown. The methodology set out in the scoping report will set out to identify these subjects and assess likely impacts.

Probable effects are likely to be cumulative over an extended period of time starting with the construction phase and continuing over the whole life of project (100 years+).

It is recommended that Halton should remain a close consultee during the EIA process and suitable methodologies continue to be used to ensure any likely

receptors within the estuary corridor are further assessed and any likely impacts are established.

I have no further comments to make at this time, if you wish to discuss this matter further please contact me.

Nick Martin
Community, Design & Cemeteries Manager



By Email Only to:

merseytidal@planninginspectorate.gov.uk

Our Ref	24/08061/PREAPP
Our Telephone Please ask for	0151 511 6160 Duty Planner
Your ref	EN0110006
Date	16.10.2024
E-mail address	Dev.control@halton.gov.uk

**Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11
Application by Mersey Tidal Power Project (the Applicant) for an Order granting
Development Consent for the Mersey Tidal Power Project (the Proposed Development)
Scoping Consultation**

1. The proposals comprise: a tidal range barrage located within the channel of the Mersey Estuary; an onward grid connection to a National Grid substation or other substations; and utilisation of the surrounding port facilities during the construction phase in addition to other potential associated developments which may support the construction phase.

EIA Methodology

2. The applicant has submitted an EIA Scoping Report (*Mersey Tidal Power, EIA Scoping Report, Mersey Tidal Power, September 2024*) which has been reviewed and forms the basis for this response.
3. The Environmental Statement that supports the planning application should include the following sections as a minimum:
 - A non-technical summary;
 - Detailed scope of works;
 - Reference to key plans and legislation. It is essential that all relevant guidance and policies be complied with as appropriate;
 - Detailed baseline review (associated with all development issues); and
 - Detailed integrated assessment of all environmental impacts. This assessment needs to take into account the nature of impact (importance, magnitude and duration – quantified as appropriate), reversibility of impact, mitigation, monitoring measures (including reference to long-term management and maintenance measures/plans) and residual impacts.
4. It is important that the conclusions of the environmental impact assessment are transparent, and that all information used to draw conclusions is clearly presented and objective (including survey/assessment results) to enable third party verification.
5. The scoping phase of an Environmental Impact Assessment (EIA) presents the best opportunity to ensure that all the environmental impacts of a development are considered at an early stage. The EIA should also make a clear distinction between construction,



operational and (if appropriate) decommissioning impacts and include a statement with regard to the phasing and timing of works for all site areas.

6. It is important that an integrated approach is taken to the EIA methodology to ensure consideration of interactions and in-combination effects. In addition, it is necessary to ensure that the results of the assessment are used to inform development design and the master plan.
7. A parameter-based 'design envelope' approach has been adopted for the purposes of EIA Scoping and subsequent Environmental Impact Assessment. The design envelope is to be refined as the Project evolves. At this stage, a maximum envelope has been used, with maximum parameters provided within the Scoping Report where relevant. The assessments contained within the EIA Scoping Report therefore assess a worst-case scenario or present options, including a worst-case option. This is an acceptable approach, although any increases to the parameters would require further assessment.

Chapter 30. Materials and Waste

8. This Chapter has been reviewed. It is noted that further desk-based studies and analysis will be undertaken to review and update baseline information, identify and assess materials and waste receptors in accordance with the prescribed methodology – this is welcomed.
9. Potential affects from disposal and recovery of waste associated with the Project decommissioning have been 'scoped out'. It appears unclear from the EIA Scoping Report whether the barrage will be removed at the decommissioning stage. Some sections of the EIA Scoping Report stating that whole scale decommissioning is not appropriate whilst other sections of the Scoping Report appear to imply that it will be removed. Clarification is required together with further justification for scoping out at this stage should there be the potential for substantial/whole scale decommissioning.

Cumulative Impacts

10. Chapter 31 includes details of the Cumulative Effects Assessment. This appears comprehensive and includes both inter and intra-project effects. A separate chapter is proposed for cumulative effects covering both inter and intra-project effects. Information will be drawn from the individual topic considerations; a consistent approach needs to be adopted to ensure that all cumulative effects are considered.

Chapter 13. Terrestrial Ecology and Biodiversity

11. A number of the EIA Scoping Report chapters feed into the Terrestrial Ecology and Biodiversity Chapter, these have been considered to inform these comments:

- 5. Coastal processes
- 6. Benthic ecology and plankton
- 7. Invasive non-native species
- 8. Marine mammals
- 9. Marine and intertidal ornithology
- 10. Fish and shellfish
- 12. Underwater noise and vibration

12. The following updates to Table 13.1 are required:

Guidance Reference	Required updates
Chartered Institute of Ecology and Environmental Management (CIEEM) (2018, updated 2019) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, and Coastal. Second Edition v1.1.	Amendment of the date and version to the most recent which is April 2022 Version 1.2
Guidelines for Preliminary Ecological Appraisals (PEA): Second Edition (2017)	Inclusion of the author: Chartered Institute of Ecology and Environmental Management (CIEEM)

Designated Sites and Species Records

13. It is noted that no Local Records Centre Record data search was carried out for species records within the scoping area or for non-statutory designated sites. Local Wildlife Sites (LWS) have not been included in this scoping EIA chapter and so have not been assessed. Also, there is no figure showing the locations of these sites.

Embedded Measures

14. A number of amendments are required to the Embedded Measures Table 13.9:

- ID OM5 (line 2) - there is a missing reference to sites of local importance.
- ID OM1- an outline CEMP is proposed, to be prepared and submitted as part of the ES. It is worth noting that HRA may require elements of the OCEMP to be more detailed to provide sufficient detail for the Competent Authority to assess the HRA.

Likely Significant Terrestrial Ecology and Biodiversity Effects

15. There is a limitation with Table 13.10 under 'Further Data Baseline Requirements' - '*Protected species surveys the presence/likely absence of relevant qualifying species associated with the designated sites.* This covers the designated sites receptors, however, for standalone protected species there are no further surveys included.

Terrestrial Ecology Receptors- Scoping Out

16. Paragraph 13.10.11 states '*It is likely that potential effects associated with the use of the Port and Marine Facilities can be scoped out from further assessment in terms of non-statutory designated sites, freshwater watercourses, and associated species (fish etc.), badger, hazel dormouse, other mammals and reptiles. This is due to those elements not being local to or likely to be found at the Port and Marine Facilities.*' Whilst a number of the species listed above may not be present in these areas, we consider these should not be scoped out at this stage for the following reasons:

- no ecological data is provided for these areas;
- non-designated sites have not been mapped or assessed;



- there is no site-specific construction information regarding the use of these Facilities; and
- with regard to the following statement, '*Whilst there will be some construction activities here associated with the grid connections, in general (cable route, landfall etc.), the existing infrastructure would be utilised at these locations and no further construction activities would be necessary.*' it is unclear whether construction activities will be required.

Biodiversity Net Gain

17. The need for Biodiversity Net Gain is acknowledged within this chapter and it is confirmed that a BNG Strategy and HMMP would be required. However, there is no outline information provided about potential loss of habitats or potential mitigation or compensation at this stage. It is advised that BNG is designed into the options/detailed design stage as early as possible.

Terrestrial Ecology Figures

18. Figure 13.5 Ancient Woodland and Habitats of Principal Importance: There are a number of habitats identified with varying shades of purple which makes it difficult to differentiate between them. There is a habitat entitled '*No main habitat but additional habitats present*' - clarification is required as to what Habitat of Principal Importance this is.

Chapter 7. Invasive Non- Native Species

19. This chapter has been reviewed. Data from NBN has been used for the baseline, however, the Chapter acknowledges both the usefulness of this and also its limitations. The Chapter confirms that further data will be gathered and assessed for the next stage.
20. We have no further comments to make.

Commitments Register (Appendix 3.1)

21. A review of the Commitments Register has been undertaken. It is considered that there should be a review for further chapter cross referencing for the next stage. A number of additional chapters have been suggested due to the relationships between them. A number of amendments are also included:
- ID OM5 (line 2) - there is a missing reference to sites of local importance.
 - ID OM8 - Construction Noise Management Plan. Add reference to Chapter 13 Terrestrial Ecology and Biodiversity and Chapter 8 Marine and Intertidal Ornithology.
 - ID OM9 - Marine Mammal Mitigation Plan, however this commitment also includes a reference to fish?
 - ID 13.6- Lighting Strategy references Chapter 13 Terrestrial Ecology and Biodiversity and construction only. Operational lighting may have an impact on terrestrial ecology. Also, Construction and Operational lighting may also impact Chapter 8 Marine and Intertidal Ornithology.
 - ID 19.10 - Major surface water crossings for the grid connection will be designed to minimise disruption to hydrological processes and riparian and aquatic habitats. Chapter 13 (Terrestrial Ecology and Biodiversity) to be added.

- ID 19.11 - Direct grid connection within 10m of a water courses. Chapter 13 Terrestrial Ecology and Biodiversity to be added.
- ID 19.12 - Works within 10m of water course for grid connection. Inclusion of Chapter 13 Terrestrial Ecology and Biodiversity plus for Construction and Decommissioning .
- ID 21.1 - Air quality . Add reference to Chapters 13 Terrestrial Ecology and Biodiversity and Chapter 9 Marine and Intertidal Ornithology.
- ID 22.2 - Target design criteria for operational fixed plant equipment. Add reference to Chapters 13 Terrestrial Ecology and Biodiversity and Chapter 9 Marine and Intertidal Ornithology.
- ID 23.7 - Routing of Grid Connection through agricultural land. Add reference to Chapter 9 Marine and Intertidal Ornithology in regard to potential Functionally Linked Land.
- ID 25.6 - *'Avoid use of open cut cable line techniques across sensitive habitat such as rivers and streams. Use of Horizontal directional drilling (HDD) techniques to be employed to avoid significant impacts on sensitive landscape receptors.'* Chapter 25 Seascape, Landscape and Visual is included only. Chapter 13 Terrestrial Ecology and Biodiversity should be added.

General Observations on the Scoping Report

22. We make the following general observations:

- Volumes (2a, 2b and 2c) all have the same index of Figures although they refer to different chapters.
- Volume 3 Appendices – the contents page numbers do not match appendices page numbers reports within.
- The word RAMSAR is in the following paragraphs of the Scoping Chapters reports: 2.3.18, 19.7.15, 23.6.32, 23.6.66, 23.6.98, and 23.7.4) and it is noted that this word is not an acronym and should be written as Ramsar.
- There is no reference to Marine Net Gain. It is advised that this, along with Biodiversity Net Gain, should be taken into consideration at the earliest stage possible so these can be incorporated into the design of the overall project.

Habitat Regulations Assessment (HRA)

23. The proposed Mersey tidal barrage is to be located at a currently undefined location within the Mersey Estuary. The development site is within the following national and international sites located within Halton. These sites are protected under the Conservation of Habitats & Species Regulations 2017 (as amended) and UDP/Local Plan/Core Strategy policies CSR20 and HE1 apply:

- Mersey Estuary SPA; and
- Mersey Estuary Ramsar site.

24. The EIA scoping includes Habitats Regulations Assessment (HRA) Test of Likely Significant Effects (Appendix 3.3).



25. The project is also close to the following SSSI located within Halton, which are of relevance due to overlapping designation features with the internationally designated sites and Local Plan policies CSR20 and HE1 apply:
- Mersey Estuary SSSI.
26. As a general point many fundamental project elements are yet unknown, such as barrage location, water levels, connection points. In addition, much of the survey evidence base which will be required to inform the HRA such as non-breeding bird survey or benthic and plankton surveys are currently on going. Therefore, the HRA is currently relatively broad and lacks much of the detailed evidence base that is required for a full HRA.
27. A number of the EIA Scoping Report chapters feed into the HRA, these have been reviewed and inform these comments, these include:
- 5. Coastal processes
 - 6. Benthic ecology and plankton
 - 7. Invasive non-native species
 - 8. Marine mammals
 - 9. Marine and intertidal ornithology
 - 10. Fish and shellfish
 - 12. Underwater noise and vibration
28. The HRA identifies and assesses designated sites which are designated for marine element such as fish and marine mammals. We defer to the relevant marine and fisheries organisations and experts on these matters.

General overarching comments on the HRA

29. It appears unclear from the EIA Scoping Report whether the barrage will be removed at the decommissioning stage. Some sections of the EIA Scoping Report stating that whole scale decommissioning is not appropriate whilst other sections of the EIA Scoping Report appear to imply that it will be removed. Clarification is required. The EIA Scoping Report and HRA discuss decommissioning, both state that whole scale decommissioning is not appropriate given the length of operational life and the environmental equilibrium which will have established during this time. However, there is no guarantee that any environmental equilibrium will be positive or neutral against the current baseline at the Mersey Estuary scale (accepting that some compensation may have been delivered). There currently seems to be no commitment to look at restoration options based on the outcome of monitoring over the operational phase of the development. Restoration to a positive equilibrium should be the goal. A decommissioning plan which includes a commitment to review decommissioning options and return the estuary to a positive state is required. In addition, if there is no commitment to remove the barrage, who will maintain it? The EIA Scoping Report states that decommissioning timescales are just twelve months which seem optimistic.
30. The HRA correctly identifies the relevant internationally designated sites within and around the Mersey Estuary, the Liverpool City Region including Halton. Designated sites from the



wider UK and Ireland are included within the HRA Test of Likely Significant Effects (TOLSE), however they are screened out based on maximum foraging distances. However, we consider that as impacts to designated sites and available mud and sandflats during construction and operation of the barrage are not known they should not be screened out. The barrage may result in reduced bird carrying capacity of the Mersey Estuary SPA and Ramsar sites and as a result birds may be displaced to other estuarine and coastal sites within the UK and Ireland, or require compensation within other estuarine and coastal sites. Consideration of displacement of birds to other sites is required within the HRA. This also relates to the in-combination scope which is discussed below.

31. The EIA scoping chapters address likely significant effect (LSE) and state that they will consider only those impacts where there is a risk of a likely significant effect in EIA terms. Measures of magnitude and significance of impact in EIA terms are also discussed. How are HRA thresholds of LSE and impacts to site integrity to be measured and how will these align with EIA measures of significance? The ES will need to ensure integration with LSE in HRA terms and ensure that any LSE scoped out in EIA terms are not automatically discounted from the HRA.
32. In combination assessment has been undertaken and concludes no likely significant in combination effects. This appears to be premature given the lack of project details and currently incomplete evidence base. In addition, at such an early stage of the project all relevant plans and projects are not known. The in-combination assessment states that a full planning search was not undertaken. The in-combination assessment currently has gaps and the following plans and projects should be scoped into the in combination assessment:
 - Local Plans for Halton, Sefton, West Lancashire, Fylde and Cheshire West as all are within the study area;
 - Liverpool airport expansion – this has the potential for in combination effects due to the potential loss of functionally linked land associated with the Mersey Estuary SPA and Ramsar and potential compensatory habitat requirements.
 - Relevant Shoreline management plans.
33. Project details are not yet known and therefore impacts to the designated sites within and around the Mersey Estuary in terms of bird carrying capacity are also unknown. Therefore, the scope of the in-combination effects needs to be widened to other estuary development around the UK and Ireland where they are designated or provide Functionally Linked Land (FLL). Currently the scope of in combination TOLSE is only 30km for NSIPs which is not considered to be sufficient. This will be particularly important if HRA progresses to the assessment of alternatives stage.

HRA detailed comments

34. Initial hydrodynamic modelling indicates that changes to the extent of the intertidal zone would primarily be upstream of the Project with minimal changes in extent seaward of the barrage. Given the location of the barrage is currently unknown there is potential for upstream impacts to the intertidal zone within Halton and its associated internationally designated sites.



35. The barrage scheme proposes to provide active travel providing a source of recreation and tourism. The potential for recreational pressure on the designated sites is not currently considered. This is likely less of a potential impact for the designated sites within Halton (Mersey Estuary SPA and Ramsar sites) however, recreational pressure needs to be scoped into the HRA TOLSE.
36. The need for any compensation for HRA or BNG impacts is not considered as part of the TOLSE. Will for instance FFL farmland be required to create wetland to offset any impacts to designated sites and where will BNG offsite requirements be located?
37. HRA presence of artificial lighting only considers maintenance vehicles and vessels and does not consider lighting of the barrage during operation.
38. An Outline CEMP (OCEMP) is proposed, to be prepared and submitted as part of the ES. It is worth noting that HRA may require elements of the OCEMP to be more detailed to provide sufficient detail for the Competent Authority to assess the HRA.
39. Zone of influences of 10km and 20km are used, however these need to be fully evidenced and species specific.
40. Review of supporting chapters identified the following which need consideration within the HRA:

Chapter 5. Coastal processes

41. The coastal process chapter will be key to understanding and assessing impacts to designated sites under HRA. Studies, surveys and modelling should ensure that they provide sufficient evidence base to inform HRA.
42. The coastal processes chapter states that modelling undertaken using *E. coli* as an indicator for sewage behaviour in the Mersey Estuary during a storm event showed significant increases in concentration of this tracer compared with baseline for some barrage scenarios. This has implications for Halton in terms of water quality and impacts to areas of the Mersey Estuary SPA and Ramsar within Halton. The Scoping Report states that as sewage discharges are likely to be one of the principal sources of inorganic nutrients (particularly nitrogen and phosphorus) entering the impounded area created by the barrage, the potential for changes in nutrient concentrations in the estuary as a result of the Project will be assessed. Changes in nutrient concentrations combined with a reduction in suspended solids concentrations, may affect phytoplankton growth. This may impact on prey items within the designated sites and should be assessed within the HRA. The HRA should also consider how might other sewage pollutants could impact on prey and qualifying species.
43. The coastal processes chapter also notes that the barrage could result in changes in retention time of estuary water, leading to settlement of suspended solids increasing water clarity, leading to increased phytoplankton growth. This has implications for water quality and areas of the Mersey Estuary SPA and Ramsar within Halton. This has been carried forward into the HRA.

Chapter 6. Benthic ecology and plankton

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44. The benthic ecology and plankton ES chapter will consider only those impacts where there is a risk of a likely significant effect in EIA terms. However, this may not be the same as LSE in HRA terms. The ES will need to ensure integration with LSE in HRA terms. Survey effort and assessment of impacts which may be considered LSE in HRA terms should not be scoped out.
45. Table 6-4 provides value criteria for benthic ecology and plankton. High and medium value are defined as features of an internationally /nationally designated site. However, this definition should be widened to those features which support internationally /nationally designated site features. This would ensure populations which support designation features, or these sites are given appropriate weighting even when not specifically identified as a designation feature in their own right but are integral to the designation.
46. Noise and vibration is scoped out of the ES in relation to benthic ecology and plankton, however, reasoning appears to relate to noise only. The scoping report states (paragraph 6.11.7) that sparse information is available in relation to potential effects of underwater noise and vibration on benthic and plankton species. The scoping predicts these impacts to be short term (<1 year). However, we disagree with this assessment. There are likely to be multiple activities over the construction period of 7-10 years which produce noise and vibration and the cumulative and in combination effects of this on benthic and plankton species requires consideration, particularly as it relates to prey items for qualifying bird species of the designated sites and therefore a HRA issue. It is noted that noise and vibration is scoped in to cumulative effects.
47. Chapter 12 Underwater Noise and Vibration states that assessment will be made for marine mammals and fish as published thresholds exist. However, there are no other widely used quantifiable underwater sound pressure level threshold criteria for benthic ecology receptors, any relevant marine ornithology receptors (i.e. diving birds and their subsequent underwater noise exposure), and any other marine users (i.e. human divers and swimmers). Consequently, the potential underwater noise effects on receptors without quantifiable criteria will be addressed qualitatively in conjunction with the respective aspect chapters. Therefore, noise and vibration effects should be scoped in to both the Benthic ecology and plankton and ornithological chapters of the ES. The lack of published thresholds brings in an element of uncertainty in predicting impacts to qualifying bird species and the benthic communities on which they feed. How will this level of uncertainty be addressed by the ES?
48. In relation to noise and vibration we note that a number of embedded environmental measures are proposed, and this is welcomed (Table 12-2).
49. Prey availability surveys commenced July 2024 and will cover a period of 12 to 24 months. How will survey length be determined?

Chapter 9. Marine and intertidal ornithology

50. It is noted that Natural England has advised on the need for three years of non-breeding bird survey and that they should be used to inform project location and design to ensure the least damaging option. We agree with Natural England advice and the methods proposed by them. Natural England has requested nocturnal surveys. However, the EIA scoping states they have been scoped out as there would be no value in undertaking these surveys, due to



foraging activity not being dictated by diurnal patterns. GPS tagging also ruled out. Further discussion with Natural England should be undertaken so that agreement on survey requirements is reached. If Natural England advice is not followed, then clear evidence and reasoning for this should be presented within the ES.

51. Table 9-4 defines conservation value levels and are appropriate, however, it needs to be clear how they relate to HRA tests of Likely Significant Effects and Adverse effects on site integrity. Table 9-5 defines sensitivity; will this be set per species based on available literature. Table 9-6 and Table 9-7 define magnitude and significance, it would be useful to relate these measures to HRA thresholds so there is clear understanding.
52. Table 9-8 lists key sources of data, it includes BTO Webs reports online, does this include full WeBS data search? This would be expected.
53. Table 9-16 lists potential significant effects and scopes them in or out of the ES. We make the following comments:
 - Maintenance vehicles and vessels – Noise disturbance is scoped out, however, we do not think it can be at this stage as it will depend on location and proximity to qualifying bird feature roosts and feeding locations.
 - Abrasion / disturbance to the substrate is also scoped out. Given lack of certainty on location we do not think it can be at this stage.
 - A number of potential pathways from release of contaminated sediments from disturbed bottom sediments are scoped out due to lack of pathway, however, a pathway exists via prey items and therefore should not be scoped out.
54. Project pathways identified for indirect effects on birds resulting from impacts on prey element of (Table 5-7) does not include changes to water flow regime which may impact retention of pollutants such as sewage for longer, or the effects of settlement and potential or increased water clarity.
55. Dredging could contribute towards a marine enhancement project. This should be informed by impacts of the project and ecological requirements.

In addition to the above comments the Mersey Gateway Team have commented as follows:

The Mersey Gateway Bridge (MGB) has been designed to accommodate specific wave and hydrodynamic loading based upon wave height ranges, return periods and mean and variable water levels. Other hydrodynamic effects including scour of bridge pylon foundations have been assessed based upon hydrodynamic studies undertaken as part of the Environmental Impact Assessment for the MGB. It will be necessary for data to be provided to either demonstrate that the Tidal Power Project will not change the hydrodynamic behaviour of the river at the MGB location or alternatively to provide all information to allow any such consequences to be assessed.

The Council's Highways Engineer has confirmed that the points raised are equally valid for the SJB foundation in the river.

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Municipal Building, Kingsway, Widnes, Cheshire WA8 7QF

Telephone: 0303 333 4300

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Finally, please find attached also comments received from the following:

- HBC Open Spaces
- Environment Services Design & Development Team

Yours sincerely,



For Operational Director – Policy, Planning and Transportation

Environment Services

Pre-application Checklist

Development Name:	Mersey tidal Power project
Planning Application Number:	24/08061/PREAPP
Date received in ES:	Click here to enter a date 23/09/24
E.S. Officer:	Name. Siobhan Ganner
Planning Officer:	Glen Henry
Are there Tree constraints on site Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
S.U.D.S. Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Ecological constraints Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<p>The area in an around the River Mersey holds a number of wading birds throughout the seasons, how will the Tidal barrage affect their feeding sites. The area also has a salt marsh which we would need to be aware of how the changes in tides, water levels and the energy within the river will affect the saltmarsh. There is erosion along the bank at spike island how will the changes in tide from the barrage affect the rate of erosion in this area. How will the barrage affect the migration of marine mammals in particular seals who have been seen up as far as Pickerings pasture.</p> <p>Full ecological reports will be need to assess the potential effects on these habitats and wildlife.</p> <p>Would need to see the scope of impacts on fish populations and migration along the Mersey of certain species</p>
Landscape Design proposal provided Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Hedgerow constraints Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Additional comments:	

From: [Dev Control](#)
To: [Mersey Tidal Power Project](#)
Subject: RE: Your ref. EN0110006 Halton Borough Council Response
Date: 16 October 2024 15:38:37

You don't often get email from dev.control@halton.gov.uk. [Learn why this is important](#)

Good Afternoon

Following my previous email, please see below comments from the LLFA that have been received today. This should also be taken into account along with the previous attachments sent:

From reviewing the documents the key Halton LLFA comment is that the proposed current scoping boundary / study area is not large enough and Halton needs to be included within the study area and should be a statutory consultee.

Currently we have several watercourses that are tidally influenced and structures that sit within or outfall to the River Mersey, therefore we need to understand the potential changes water level and the risk that it could pose to our assets. As Halton is not within the scoping boundary the historic flooding within our boundary area due to tidal locking has not been noted or assessed. Halton has installed flood monitors to monitor sites that regularly flood due to tidal locking. This information should form part of the study moving forwards.

Kind regards
Charlotte

From: Dev Control
Sent: 16 October 2024 12:57
To: merseytidal@planninginspectorate.gov.uk
Subject: Your ref. EN0110006 Halton Borough Council Response

Good Afternoon

Following from your consultation sent to us on 19th September 2024 (Ref. EN0110006), please see attached Halton Borough Council's comments.

Kind regards
Development Control

CEMHD Policy - Land Use Planning,
NSIP Consultations,
Building 1.2,
Redgrave Court,
Merton Road,
Bootle, Merseyside
L20 7HS.

HSE email: NSIP.applications@hse.gov.uk

email only – merseytidal@planninginspectorate.gov.uk

Dear Ms C Deery

Date: 14 October 2024

**PROPOSED MERSEY TIDAL POWER PROJECT (the project)
PROPOSAL BY MERSEY TIDAL POWER PROJECT (the applicant)
INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2017 (as
amended) REGULATIONS 10 and 11**

Thank you for your letter of 19 September 2024 regarding the information to be provided in an environmental statement relating to the above project. HSE does not comment on EIA Scoping Reports but the following information is likely to be useful to the applicant.

HSE's land use planning advice

Will the proposed development fall within any of HSE's consultation distances?

1. With reference to the document(s) **Mersey Tidal Power, EIA Scoping Report, September 2024** [<https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN0110006-000004-EN0110006%20-%20Scoping%20Report%20Volume%201.pdf>], owing to the scale of the proposed development (**Redlined Scoping Boundary - Mersey Tidal Power Scoping Report Chapter 1: Introduction, Figure 1.1 Scoping Boundary**), sections of the proposed development fall within HSE public safety consultation zones associated with a number of Major Accident Hazard Pipeline(s) and Major Accident Hazard Installation(s).
2. At this early stage of the project, it appears that the location of **Onshore Operational Buildings** (which will include operational, maintenance, stores, offices buildings, control room and car parks), Contractor **Construction Compound(s)** & a proposed **Visitor Centre** are yet to be fixed, consequently HSE is currently not in a position to provide an indication of its' statutory Land Use Planning advice. However, as a general point HSE will not advise against a proposed development, providing the proposed development does not introduce populations, either permanent or temporary, into any of HSE's public safety consultation zones, which are assigned to individual Major Accident Hazard Installation(s) and/or Major Accident Hazard Pipeline(s). For more information, please refer to HSE's Land Use Planning Methodology, which can be found at <https://www.hse.gov.uk/landuseplanning/methodology.htm>.
3. Please note if at any time a new Major Accident Hazard Pipeline, is introduced or existing Pipeline(s) are modified prior to the determination of a future application, then the HSE reserves the right to revise its advice.
4. Likewise, if prior to the determination of a future application, a Hazardous Substances Consent is granted for a new Major Hazard Installation or a Hazardous Substances Consent is varied for an existing Major Hazard Installation in the vicinity of the proposed project, again the HSE reserves the right to revise its advice.

Would Hazardous Substances Consent be needed?

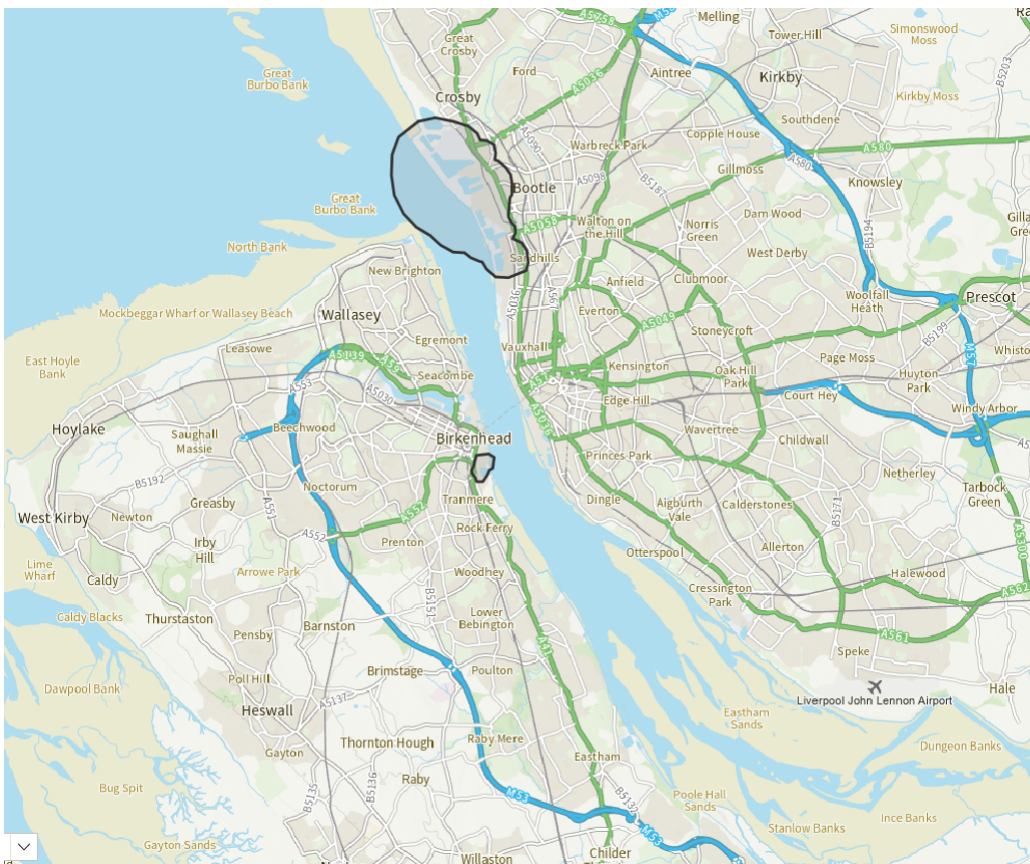
5. The presence of hazardous substances on, over or under land at or above set threshold quantities (Controlled Quantities) may require Hazardous Substances Consent (HSC) under the Planning (Hazardous Substances) Act 1990 as amended. The substances, alone or when aggregated with others, for which HSC is required, and the associated Controlled Quantities, are set out in both The Planning (Hazardous Substances) Regulations 2015.
6. Hazardous Substances Consent would be required if the proposed development site is intending to store or use any of the Named Hazardous Substances or Categories of Substances and Preparations at or above the controlled quantities set out in schedule 1 of these Regulations.

Explosives sites

HSE (CEMHD 7 – Explosives Inspectorate) has considered that scoping documents provided for consultation on this project. At this stage it is not apparent where the tidal barrage, or connections to the national grid, will be situated. The areas marked in the map showed below contain berths where the handling of explosives is permitted by virtue of explosive licences granted under the Dangerous Goods in Harbour Areas Regulations 2016(DGHAR).

Should the proposed development encroach on these areas then HSE would be required to review the explosive licences for the berths in these areas. This could result in a reduction in the quantities of explosives that may be handled at the berths; this may affect the commercial viability of these berths.

HSE would wish to be further consulted on this proposed development as the project proceeds.



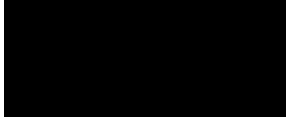
Electrical Safety

No comment from a planning perspective.

At this time, please send any further communication on this project directly to the HSE's designated e-mail account for NSIP applications at nsip.applications@hse.gov.uk . We are currently unable to accept hard copies, as our offices have limited access.

Yours sincerely

Pp



Cathy Williams
CEMHD4 NSIP Consultation Team



Direct Dial: 01612421416

Our Ref: PL00796194

By email

16 October 2024

Dear Sir / Madam

Re: MERSEY TIDAL POWER ENVIRONMENTAL IMPACT ASSESSMENT (EIA)
SCOPING REPORT

Thank you for your letter of 19 September consulting us about the above EIA Scoping Report. We have the following comments to make on the content of the scoping report:

General Comments

Historic England find that the Project's use of the 'Design Envelope' approach has resulted in a degree of uncertainty as to the proposed placement of the tidal barrage and associated infrastructure, together with its overall dimensions. Because of this approach we consider understanding impacts that may arise as a result of the Project remain very much unclear. Historic England stress the need for a forthcoming Preliminary Environmental Information Report (PEIR) to provide a more detailed picture of worst-case scenario parameters.

By way of an explanation, measures to avoid impacts by design should be prioritised. As such measures for a large and complex scheme, rely upon an accurate and early understanding of where important archaeological remains - meriting mitigation - may exist. For this reason, efficient delivery of the Project will rely on timely acquisition and assessment of data to inform the Desk Based Assessments (DBAs), including reviews of marine and terrestrial geophysical and geotechnical survey data, and possible targeted archaeological and geoarchaeological investigations.

Chapter 17 Marine Archaeology and Cultural Heritage

Table 17-1

The PEIR needs to include clear reference to the *Historic Environment Guidance for Wave and Tidal Energy* (Fjodr 2013). There are several areas of this guidance we feel are directly applicable to the proposals. For instance (10.2) provides clarity that "Wave and tidal energy may give rise to beneficial effects where the significance of heritage assets is enhanced by development-led investigation, for example, or by increasing



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public benefit associated with the historic environment.” A statement we feel chimes very much with the principles set out in the National Policy Statements EN-1 Paragraph 5.9.12 and 5.9.19, EN-3 Paragraph 3.8.191, and the policy aim of NW-HER-1 (within the relevant Marine Plan).

Additionally, along with utilising *People and the Sea: a maritime archaeological research agenda for England* (Ransley et al., 2013), applicable research questions are also found within the North West Regional Research Framework (<https://researchframeworks.org/nwrf/>), such as those relating to the Late Medieval and Post Medieval Research Agendas.

17.6.9

Historic England understand that ‘The Tidal Barrage Development Area’ has been the subject of considerable dredging activity, historically and recently. However, we agree that the extent of this work cannot be concluded to have removed archaeological remains. Especially if the inferred dredging activity was, for the majority, addressing maintenance depths (paragraph 5.6.7).

Table 17-4

Historic England note the inclusion of “Potential disturbance of wrecks through the recovery of cultural material by members of the public as a result of discovery” as a scoped in likely significant effect. Therefore, given the NPS view on increasing public benefit, for example through improved access or the contribution to new knowledge that arises from investigation, are there specific measures of mitigation that will be proposed in the PEIR that will effectively look to resolve this identified indirect impact?

17.7.5

It is similarly unclear how “the potential for loss or disturbance through threat of deleterious effect, theft or salvage of possible significant historic wreck sites arising from discovery and other marine infrastructure projects” fits into the types of mitigation measures the Project can feasibly commit to. As a point of clarity, therefore, is it that the Scoping Report feels there is an increased need to gather detailed archaeological information for marine archaeological discoveries made within the Tidal Barrage Development Area? To offset broader regional impacts (from other developments) to the significance of a particular type of heritage asset (where group value associations may exist). By way of a link for cumulative or in-combination impacts to maritime heritage as an example?

17.13.1

Historic England agree that an offshore archaeological DBA should be produced to establish an effective baseline for both known and potential heritage assets, utilising





the principle sources listed in Tables 17-2 and 17-5. This should be done in conjunction with attaining specialist archaeological input.

It is also important however, that where geophysical survey and LiDAR data has been used to support the characterisation within the PEIR, the resulting measures of mitigation outlined consider where such data may have gaps or be insufficient to fully address anomalies of possible archaeological potential. Again, through professional and experienced archaeological advice. Thereby informing the archaeological Outline Written Scheme of investigation, and the specific strategies for future data gathering programmes.

17.13.3 & 17.13.4

Historic England agree with the detail included within these paragraphs. Specifically, the inferred reasoning that the absence of designation for a heritage asset does not indicate lower significance. Furthermore, we feel as part of the PEIR, the statement that “Unless the nature and exact extent of buried archaeological remains within any given area have been determined through prior investigation, significance is often uncertain”, could also be expanded to detail that any resulting development related impacts will also be uncertain. Necessitating clear consideration.

20.1.2

Historic England welcome the suggested link between considerations for ‘Land use, recreation and tourism’ with that of ‘Marine Archaeology and Cultural Heritage’, and how the “preservation of important heritage assets and marine archaeology will be beneficial to the city’s touristic value”. We will take great interest as to how this connection can be explored further within the PEIR.

Chapter 18 Terrestrial Archaeology and Cultural Heritage

18.1.2

Historic England agree that terrestrial archaeology and cultural heritage connects with other topics and we encourage that the other chapters listed are considered alongside each other in the PEIR.

Table 18-1 The PEIR should include reference to other guidance documents, particularly when discussing archaeological and palaeoenvironmental remains, designing piled foundations, and the consideration of mitigation measures and preservation in situ of currently unknown archaeological deposits and materials.

These guidance documents include: Historic England (2015) Geoarchaeology: using earth sciences to understand the archaeological record





<https://historicengland.org.uk/images-books/publications/geoarchaeology-earth-sciences-to-understand-archaeological-record/>

Historic England (2020) Deposit Modelling and Archaeology. Guidance for Mapping Buried Deposits <https://historicengland.org.uk/images-books/publications/deposit-modelling-and-archaeology/>

Campbell, G., Moffett, L., and Straker, V. (2011) Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation <https://historicengland.org.uk/images-books/publications/environmental-archaeology-2nd/>

Historic England (2019) Piling and Archaeology: guidance and good practice <https://historicengland.org.uk/images-books/publications/piling-and-archaeology/>

Historic England (2016) Preserving archaeological remains: decision-taking for sites under development <https://historicengland.org.uk/images-books/publications/preserving-archaeological-remains/>

Cooper, B., and Firth, A. (2018) Tidal range developments: considerations for the historic environment. Historic England, Research Project 39-2018.

18.3.1

A study area extending 500m from the Scoping Boundary is considered to be appropriate for the assessment of known non-designated heritage assets and archaeological potential.

18.3.3 Para. 2.4.34 states that the Project may require an overhead line or underground cable to transmit power to the National Grid. Any potential significant effects that may arise as a result of changes in the setting of designated heritage assets needs to be assessed. Given that overhead lines can be visible for some distance, it will be necessary to assess potential impacts to designated assets beyond the 500m study area. In order that this assessment is proportionate, the study area for designated heritage assets can be based on a Zone of Theoretical Visibility produced with reference to potential overhead lines and any associated substations etc.

Table 18-15

Historic England recommend consulting the Rapid Coastal Zone Assessment Surveys for the Merseyside region, which aimed to enhance knowledge of the coastal historic environment to inform shoreline management plans.

An updated version of the Regional Research Framework is available online <https://researchframeworks.org/nwrf/> and should be consulted. The scheme also





has the potential to update and answer research questions from the framework which should be discussed in the PEIR.

18.7.3

It should be noted that the Register that Shoreton Hall scheduled monument and Grade II* listed building may be removed from following repair works is Historic England's Heritage at Risk (HAR) Register. Removal from the HAR Register will not affect the designation of this heritage asset.

Table 18-4

Historic England agree that Operation stage impacts to heritage assets should be assessed. However, we do not consider that the suggested limit of 150m is appropriate. The barrage will include a gantry crane to a height of 40m AOD (table 2-2) and a number of other buildings and structures of unknown size are referred to in chapter 2 (Onshore Operational Buildings, Switch House and Substation, Possible Visitor Centre etc.). As such, there is potential for impacts to the setting of heritage assets. The study area for the assessment of impacts to the setting of heritage assets should be determined using the Zone of Theoretical Visibility shown on figure 25.1.

Historic England disagree that impacts to the setting of heritage assets during the Construction stage should be scoped out. Construction of the Project is envisaged to take 7 to 10 years (para. 2.5.23) and utilise cranes with a potential height in excess of 145m. Settings impacts during the construction phase should be scoped in and should include the movement of construction vehicles as large volumes of heavy vehicles over a prolonged period of time may impact on how heritage assets are experienced, for instance a conservation area or church where tranquillity is one of the characteristics that contributes to the asset's significance.

The table assumes that power will be exported from the barrage using an underground cable, whereas para. 2.4.34 states that overhead lines may be used, This needs to be clarified and the table updated as necessary.

18.10.4

First bullet point - Historic England disagree for the reasons given above.

Second bullet point - this assumes that there will not be an overhead line and substation, which contradicts information provided in chapter 2.

Third bullet point - Para. 2.7.9 states that during operational mode of the barrage, upper intertidal and salt marsh areas may be permanently exposed due to water levels being lowered. Any impacts on archaeological deposits and materials that may be





present within the intertidal and salt marsh areas will need to be assessed within the relevant Archaeology and Cultural Heritage chapter of the PEIR. If there is a corresponding drop in the terrestrial water table, impacts on the preservation of any archaeological deposits or material identified during the Desk-Based Assessment and subsequent surveys and investigations will need to be assessed.

18.3.1

A Historic Environment Desk-Based Assessment (DBA) should be produced rather than one focusing only on archaeology. The DBA should identify all known heritage assets, both above and below ground, that will potential be subject to impacts as a result of the scheme, as well as identifying areas where currently unknown archaeological remains may be present.

Table 18-6

The table states that Grade II listed buildings are of medium significance and are only of regional importance. Grade II listed buildings should be identified as being of high significance as they have been determined as being nationally significant through the process of designation.

Yours Sincerely

Pete Owen
Development Advice Team Leader
E-mail: [REDACTED]@historicengland.org.uk



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Telephone 0161 242 1416
HistoricEngland.org.uk

Claire Deery
The Planning Inspectorate
Temple Quay House
Bristol, BS1 6PN

JNCC Reference: OIA-10477
Your Reference: EN0110006
Date: 16 October 2024

Dear Claire,

Mersey Tidal Power Project Environmental Impact Assessment Scoping Report

Thank you for consulting JNCC on the Mersey Tidal Power Project Environmental Impact Assessment Scoping Report, which we received on 19 September 2024.

The advice contained within this minute is provided by JNCC as part of our statutory advisory role to the UK Government and devolved administrations on issues relating to nature conservation in UK offshore waters (beyond the territorial limit).

JNCC have provided specialist ornithology comments in line with our joint responsibility for the Liverpool Bay Special Protection Area but defer to our colleagues at Natural England for all other advice, as the location of the project is within territorial waters.

The proposed project occurs within the Liverpool Bay SPA. This MPA is designated for red-throated diver, little gull, common scoter, little tern, common tern, and waterbird assemblages.

Ornithology Comments

Appendix 3.3 HRA screening report

6.1.11 to 6.1.16 Renewable energy projects

Burbo Bank Extension is another operational wind farm likely to have associated operation and maintenance activities.

It is also worth considering whether the construction or operation of planned offshore wind farms may coincide temporally with the proposed works, for example Awel Y Mor, Mona, Morgan, and Morecambe offshore wind farms.

6.1 Projects considered and 6.2.1 In-combination assessment conclusion

We would not agree that all the identified projects can be screened out of the in-combination assessment. The purpose of an in-combination assessment is to consider how small-scale

and residual impacts that may not be significant individually, may interact to cause significant impacts. Although some of the identified projects may be of short-term duration and be small-scale works, they have the potential to act in-combination upon the mobile features of Liverpool Bay/Bae Lerpwl SPA and should be considered.

It should be noted that the Conservation Objectives (<https://publications.naturalengland.org.uk/publication/3236717>) for the non-breeding red-throated diver feature of the Liverpool Bay/Bae Lerpwl SPA has restore/minimise targets in some cases, and similarly the non-breeding common scoter feature of the SPA has a minimise target for the 'Disturbance caused by human activity' conservation objective. Particular attention must therefore be paid to avoiding impacts in order for Plans and Projects not to compromise the ability of the site to meet its Conservation Objectives for these features, and a conclusion of Adverse Effect on Integrity to be ruled out.

Please contact me with any questions regarding the above comments.

Yours sincerely,

Niki Piesinger

Offshore Industries Adviser

Email: [REDACTED]@jncc.gov.uk

From: [REDACTED]
To: [Mersey Tidal Power Project](#)
Subject: RE: EN0110006 - Mersey Tidal Power Project EIA Scoping notification and consultation
Date: 07 October 2024 12:42:03
Attachments: [image004.png](#)
[image001.png](#)
[image002.png](#)
[image008.jpg](#)
[image009.png](#)
[image010.png](#)

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Dear Sir/Madam,

I am writing on behalf of Little Stanney & District Parish Council, to advise that at their latest meeting held on 24th September, the Parish resolved to support your project.

Kind regards

Alison Kunaj

Parish Clerk

From: Mersey Tidal Power Project <merseytidal@planninginspectorate.gov.uk>

Sent: 19 September 2024 11:56

Subject: EN0110006 - Mersey Tidal Power Project EIA Scoping notification and consultation

Dear Sir/Madam

Please see attached correspondence on the proposed Mersey Tidal Power Project.

The Applicant for the Proposed Development intends to make an application for Development Consent under the Planning Act 2008. The Applicant has sought a Scoping Opinion from the Planning Inspectorate, on behalf of the Secretary of State, as to the scope and level of detail of the information to be provided within the Environmental Statement that will accompany its future application.

The Planning Inspectorate has identified you as a consultation body to inform the Scoping Opinion and is therefore inviting you to submit comments by **16 October 2024**. The deadline is a statutory requirement that cannot be extended.

Further information is included within the attached letter.

Kind regards



Claire Deery (She/Her)
Senior EIA Advisor
The Planning Inspectorate



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Claire Deery
Senior EIA Advisor
Mersey Tidal Power Project Case Team
Planning Inspectorate

Your reference: EN0110006
Our reference: DCO/2023/00003

Email: merseytidal@planninginspectorate.gov.uk.

By email only

16 October 2024

Dear Ms Deery

Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11

MMO scoping consultation response on the application by Liverpool City Regional Combined Authority (the Applicant) for an Order granting Development Consent for the Mersey Tidal Power Project (the Proposed Development)

Thank you for your scoping consultation dated 19 September 2024 and for providing the Marine Management Organisation (MMO) with the opportunity to share our comments with you on the Mersey Tidal Power Project Scoping Report.

The MMO's role in Nationally Significant Infrastructure Projects

The MMO was established by the Marine and Coastal Access Act 2009 (the "2009 Act") to contribute to sustainable development in the marine area and to promote clean, healthy, safe, productive and biologically diverse oceans and seas. The responsibilities of the MMO include the licensing of construction works, deposits and removals in English inshore and offshore waters and for Welsh and Northern Ireland offshore waters by way of a marine licence¹. Inshore waters include any area which is submerged at mean high water spring ("MHWS") tide. They also include the waters of every estuary, river or channel where the tide flows at MHWS tide. Waters in areas which are closed permanently or intermittently by a lock or other artificial means against the regular action of the tide are included, where seawater flows into or out from the area. In the case of Nationally Significant Infrastructure Projects ("NSIPs"), the 2008 Act enables Development Consent Order's ("DCO") for projects which affect the marine environment to include provisions which deem marine licences².

As a prescribed consultee under the 2008 Act, the MMO advises developers during preapplication on those aspects of a project that may have an impact on the marine area or those who use it. In addition to considering the impacts of any construction, deposit or

¹ Under Part 4 of the 2009 Act
² Section 149A of the 2008 Act



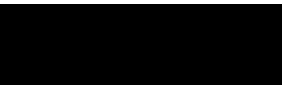
removal within the marine area, this also includes assessing any risks to human health, other legitimate uses of the sea and any potential impacts on the marine environment from terrestrial works. Where a marine licence is deemed within a DCO, the MMO is the delivery body responsible for post-consent monitoring, variation, enforcement and revocation of provisions relating to the marine environment. As such, the MMO has a keen interest in ensuring that provisions drafted in a deemed marine licence (“dML”) enable the MMO to fulfil these obligations. Further information on licensable activities can be found on the MMO’s website³. Further information on the interaction between the Planning Inspectorate and the MMO can be found in our joint advice note⁴.

Please find attached the scoping opinion of the MMO. In providing these comments, the MMO has sought the views of our technical advisors at the Centre for Environment, Fisheries and Aquaculture Science (Cefas) and the MMO Northwest Coastal Office.

The MMO reserves the right to make further comments on the project throughout the preapplication process and may modify its present advice or opinion in view of any additional information that may come to our attention. This representation is also submitted without prejudice to any decision the MMO may make on any associated application for consent, permission, approval or any other type of authorisation submitted to the MMO either for the works in the marine area or for any other authorisation relevant to the proposed development.

If you require any further information, please do not hesitate to contact me using the details provided below.

Yours Sincerely



Yvonne Golightly
Marine Licensing Case Officer

D 

E  marinemanagement.org.uk

³ <https://www.gov.uk/planning-development/marine-licences>

⁴ <http://infrastructure.planningportal.gov.uk/wp-content/uploads/2013/04/Advice-note-11-v2.pdf>

Scoping consultation response

Title: Mersey Tidal Power Project

Applicant: Mersey Tidal Power led by Liverpool City Region Combined Authority (LCRCA)

MMO Reference: DCO/2023/00003

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1. Proposal

1.1 Project Background

The proposal is to construct a tidal range barrage across the River Mersey, creating a lagoon using the natural river bank and voluminous body of the water upstream. Power generation will be achieved by capturing the potential energy in the rise (flood) and fall (ebb) of the tides to drive submerged turbines to produce electricity.

The project will have a generating capacity of up to 1 Giga Watt (GW) and provide the first above ground connection between the banks of the Mersey in Liverpool, creating the potential for active travel, flood protection and climate mitigation responses. It will also include locks as part of the marine navigation system for vessels to continue to pass through.

1.2 Proposed Development

The proposal will consist of the following main components:

- A tidal range barrage located within the channel of the Mersey Estuary which contains:
 - A Power Generation System with control equipment and a sub-structure housing turbines with an expected electrical output of up to 1 GW;
 - A Hydro Control System (including sluice gates);
 - A Marine Navigation System (including locks);
 - A Power Export System;
 - Onshore operational facilities including control centre, maintenance, stores and office buildings, car parks; and
 - Associated rock armour and breakwaters.
- An onward grid connection to a National Grid substation or other substations; and
- Utilisation of the surrounding port facilities during the construction phase in addition to other potential associated developments which may support the construction phase.

The electricity will be exported from the tidal barrage to the National Electricity Transmission System via an existing National Grid substation or connected to other substations. It is anticipated that enough energy could be generated to power up to 300,000 – 500,000 homes.

2. Location

The Mersey Tidal Power Project is located within the channel of the Mersey Estuary, Liverpool. See Figure 1 below for the Scoping Boundary of the proposal.

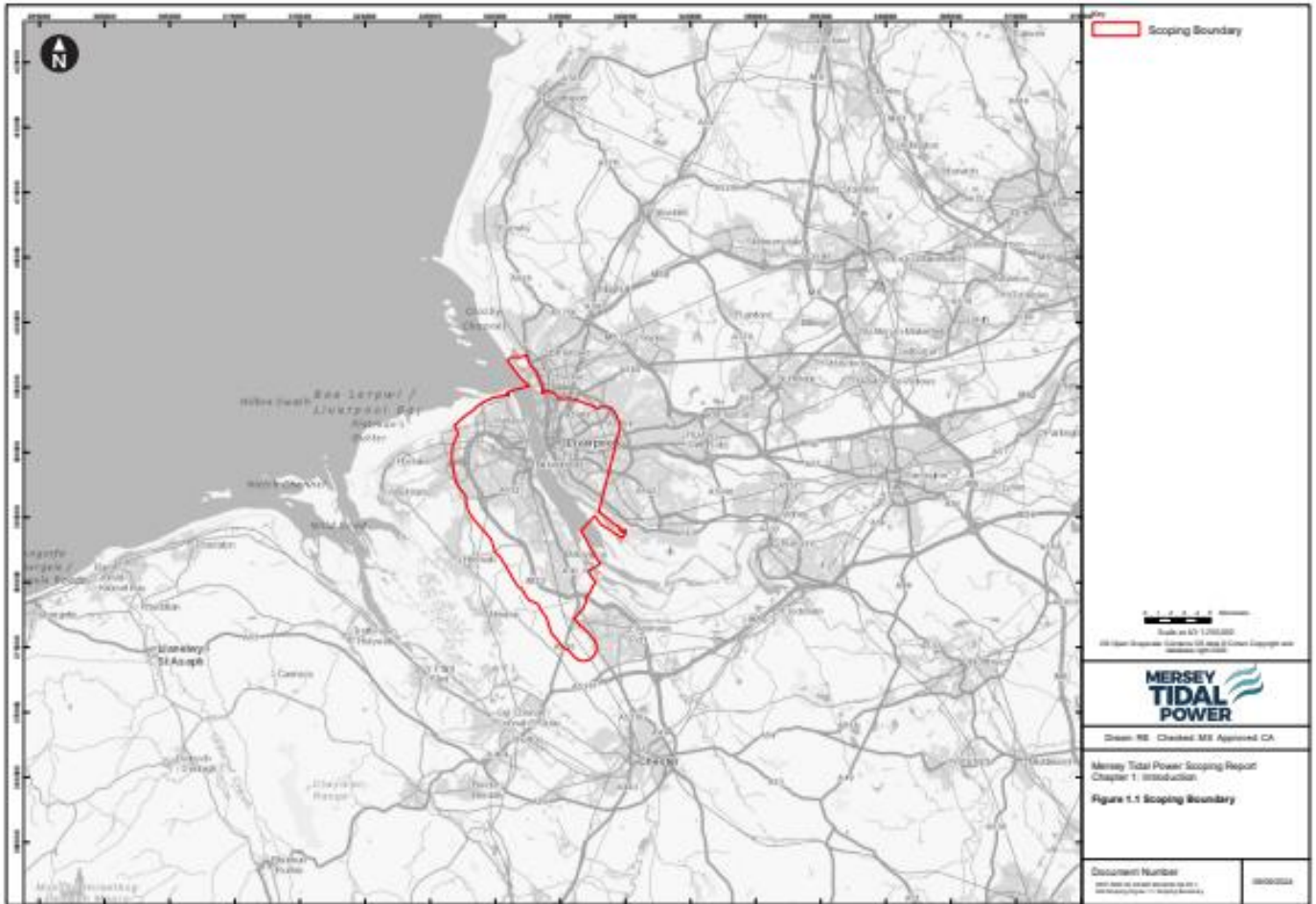


Figure 1: Scoping area of the proposed development

3. Scoping Consultation Response

Mersey Tidal Power has asked the Planning Inspectorate on behalf of the Secretary of State for its opinion (a Scoping Opinion) as to the information to be provided in an Environmental Statement (ES) relating to the Proposed Development. The Planning Inspectorate has consulted the MMO on the Scoping Report titled 'Mersey Tidal Power EIA Scoping Report' and asked that the MMO identifies the information that should be provided in the ES.

The MMO has reviewed the Scoping Report and agrees with the topics outlined, however has the following comments that should be considered before the Planning Inspectorate issues its Scoping Opinion.

3.1 Benthic Ecology

- 3.1.1. Several potential impacts relevant to benthic ecology receptors have been scoped in i.e., increased sediment mobilisation (& contaminants) from disturbance plumes; changes in seabed geology and morphology; changes in retention time of estuary water with secondary impacts on benthic ecology from changes in dissolved oxygen, nutrient input from plankton blooms, and input of treated sewerage.

However, impacts associated with the introduction of hard substrate – e.g., from rock armour and project infrastructure should be assessed with respect to the potential for colonisation of Invasive Non-Native Species (INSS) which could potentially spread further within the water body, and assemblages currently absent due to lack of suitable habitat. While the mitigation measures proposed will act to limit the potential for introduction of INNS, this stepping stone effect should also be considered. Consideration should also be given to monitoring the benthic assemblage that colonises project infrastructure to ensure early detection of INSS and to provide an assessment of the function of the resultant assemblage. For example, the rock armour may provide suitable habitat for colonisation by attached fauna, which is otherwise missing from the environment.

- 3.1.2. There is sufficient justification for the scoping decision reached. The impact of accidental pollution has been scoped out as the embedded mitigation (adherence to industry standards) will act to limit both the likelihood and amount of pollution. The MMO agrees with this conclusion and note it is in line with other developments. However, the MMO requires clarification regarding the scoping out of potential effects from barrage maintenance. Additional information should be provided to provide assurance that maintenance activities will not impact benthic ecology receptors.
- 3.1.3. The key sources summarised in Table 6-8 of the scoping report appear appropriate and will provide an assessment of the benthic features and species that have been previously identified within the study area. The MMO welcomes the planned use of the Cefas OneBenthic portal and notes that there are several suitable samples available within the Project study area (although they are limited to outside the Mersey estuary and care must be taken when selecting which samples may be suitable i.e., several samples are from the pre-construction survey conducted in 2005 for the Burbo Bank

Offshore Windfarm).

- 3.1.4. The MMO recommends that the site-specific surveys to characterise benthic assemblages include stations that may be revisited throughout the monitoring programme to act as suitable reference and potentially impacted sites, in as far as is reasonably practicable considering the ongoing Project design refinements. The MMO recognises it may not be possible to locate suitable monitoring stations until the design is confirmed. However, should it be possible to do so, a robust assessment of the potential impacts from the Project can be made, by comparing the condition of reference and impacted sites pre- and post- construction.

3.2 Coastal Processes

- 3.2.1. The MMO, in consultation with Cefas, considers that this is a proposal to fundamentally intervene in the coastal processes of the Mersey Estuary: impacts are inevitable, therefore the impact assessment must encompass a careful definition of what the systemic, long-term implications of the changes will be. A simple numerical approach which is often used in impact assessments, such as *“process ‘A’ will change by only 5%”* followed by an assumption such as *“small change so no significant impact is expected”*, would be insufficient.
- 3.2.2. Table 5-17 sets out the intended coastal process assessment scope, in respect of ‘Activity and Impact’ to be covered. All impacts are broadly defined: Generation of plumes; mobilisation of contaminated sediments; changes to metocean conditions; disturbance to seabed morphology; changes in estuary retention time and accidental spillages (scoped out). Equally, receptors are broadly defined also: riverbed and banks; seabed and coastline; waterbodies and designated sites; the receptors listed also includes impacts on biota and WFD compliance, neither of which are coastal process receptors in the normal sense. These definitions are so broad as to apparently encompass most relevant impacts.
- 3.2.3. Assuming all others are in scope, Section 5.10.9 lists three impacts scoped out: the effects of marine sediment disposal; maintenance (of erosion control structures); and accidental pollution. With respect to sediment disposal, the justification for scoping this out is that any disposal will be at already licensed sites and in line with the license. This is reasonable if the disposals are not an unusual quantity or quality i.e., typical of normal usage of the disposal sites and not sufficient to affect their existing operations. The MMO would expect to see a quantification of dredge requirements and clear indication of the intended appropriate disposal sites and their capacities to accept the sediments expected.
- 3.2.4. The intervention of the barrage in normal tidal sediment transport exchange may be significant (the evidence presented in the Scoping is baseline only i.e., without the barrage). Maintenance dredge and disposal may be required to compensate for the altered suspended sediment budget and so the fate of the sediment disposal may be relevant to maintenance of the regional sediment systems e.g., if the disposed quantities represent a significant relocation of sediment within or wholly removed from

the baseline Mersey estuary sediment system. It is not clear from the Scoping report whether this scoping out has been addressed and agreed with the statutory environmental stakeholders and therefore request from the applicant if this is the case – otherwise, evidence of magnitude and location may be required for future assessment, when considering the long-term consequences of the coastal process intervention.

- 3.2.5. Maintenance of erosion control structures is also scoped out on assertion that the impact would be negligible. The MMO considers that there is not enough information about the erosion control structure maintenance to confirm this assumption.
- 3.2.6. The MMO considers that the baseline data and methods have been adequate for Scoping in terms of coastal processes. The report indicates that the Rochdale Envelope approach will be adopted, and this can require complex assessment methods to encompass the wide range of unknowns implied. No detail regarding the full programme of assessments is presented, the MMO would welcome review of the assessments when they are available.
- 3.2.7. At present there is little description of actual impacts, since none of the individual assessments yet exist, and discussion of the proposals for Cumulative Effects Assessment (CEA) are brief. It is the MMO's view that standard (and routinely applied) CEA methods are underdeveloped and poor, providing little additional information. However, for this particular development CEA is likely to be important. The assessment must identify how the regional system responds to the extraction of energy and if the necessary 'rebudgeting' is concentrated in specific parts of the geomorphic system – described by Halcrow (quoted in 5.6.27) as having reached an equilibrium (following historic port and dredge works). Likewise, paragraph 5.6.29 indicates that for BMT Cordah *“along the coast, to the north of the River Mersey, sediment transport is predominantly wave induced, and coastal squeeze and engineered changes to the morphology of the area have caused sediment transport patterns to change over time”*. Frequently, assessments simply assume small percentage change to be insignificant yet some systems respond even to small changes over long periods. The barrage is not an insignificant change, and therefore the MMO encourages cumulative geomorphic assessments that adopt a systems perspective rather than accepting the typical, simple approaches that are based on only assessing spatial and temporal overlap with the direct impacts with other projects.
- 3.2.8. The report is not clear on boundaries of scoping and assessment e.g., the Marine scoping boundary is defined as 2.4km² (paragraph 2.2.7, Figure 2.1) which is insufficient for a coastal process assessment. The study area defined in Figure 5.1 is more applicable but seems to be defined as a simple circular radius. The appropriate study area for coastal process should be systems-defined, based on the coastal processes themselves i.e., the extent of connected hydrodynamic and sediment transport pathways subject to the influence of the barrage. The MMO would expect the mapping of the coastal system presented in the scoping (Plate 5.4) to be developed into a study area in future work.

- 3.2.9. In developing the environmental information and assessments for future reports, the assumption of decommissioning and removal should be considered in detail - in particular, how genuine and realistic is this expectation and how adequate the assessment is. Comments in the Scoping regarding the Future Baseline (paragraph 5.7.1) are also relevant to this. Section 5.7 suggests that bathymetry and coast are not expected to change dramatically and are difficult to predict reliably over the operational lifetime - nevertheless, the effort to do so may be required. Significant changes in water level and waves are projected (Tables 5-14 and 5-15), and other development can be expected over 120 years, so the environment at the end of the operational period may be quite different to that preceding construction. The environment will have adapted to the presence of the structure and its coastal process impacts (and particularly to its flood reduction impacts) and removal of the barrage will force the system to re-adapt, to whatever the future baseline is. Therefore, the consequences of wholesale removal of the barrage may not be insignificant and strong justification will therefore need to be provided for any assessment of decommissioning impacts relying on future baselines that assume no substantial change from the present.
- 3.2.10. Description of the Shoreline Management Plan (SHMP) areas (for example, paragraph 2.317) is very difficult to follow as the text refers to detailed sections like 11A7.2, 11A7.9 etc., and to Figure 2.2, but the figure is low resolution and simply plots the SMP areas as a single, uniform pink line which does not differentiate the units and with no obvious linking of the plot to the text. This could be improved in future reports.

3.3 Dredge and Disposal

- 3.3.1. The report states that between 7,000,000 m³ to 20,000,000 m³ of material could be removed (dependent on confirmed location of the tidal barrage) within the marine working area during the construction phase. Within the Environmental Impact Assessment (EIA), it is vital that the 7-20M m³ of dredged material is determined to be A) suitable for disposal, and B) has an assigned placement area.

The report states that in order to maintain continuous operation and navigation of the tidal barrage, maintenance dredging is likely to be required after construction. It is anticipated that water injection methods will be used around the operational tidal barrage, allowing the sediment to remain within the channel and settle accordingly and in the unlikely scenario that maintenance dredging should require significant larger volumes, offsite disposal may be considered if necessary. A marine licence will be required for the maintenance dredge and disposal outlined and this can be applied for within the sediment sample plan and licence application stage of the main Project. Consideration should be given to the use of coffer dams for construction and potential erosion of sediments and transport that may have an impact on any downstream designated features e.g. cobbles (for example during the construction of Mersey Gateway Bridge large volumes of material were eroded over initial tides).

- 3.3.2. Regarding disposal, it is proposed to reuse as much dredged material as possible, and should disposal be required, would be via the following methods:
- Within a marine disposal facility either under control by the Applicant or a third

party marine disposal area under agreement (Please see comments in paragraphs 3.3.10); or

- Contribute to a marine enhancement project within the locality (subject to testing and volumes - Please see comments in paragraphs 3.3.10);

The MMO acknowledges that confirmation of a project specific marine disposal area will be stated within the Preliminary Environmental Information Report (PEIR), following a refinement of the volume of dredged material, availability of existing disposal areas and potential for reuse. However, the potential impacts of disposing at the disposal areas e.g. impacts from the volume of material; impacts to suspended sediment levels etc. should also be considered.

- 3.3.3. Chapter 30 states that *“regular maintenance dredging within the Tidal Barrage Development Area is currently managed and disposed at licensed offshore marine disposal facilities”*. The applicant should be made aware that applications for maintenance dredging and disposal under the current Project will require a separate licence to current maintenance dredging undertaken within the Tidal Barrage Development Area and as such will need to apply for a sample plan and subsequent licence application. Alongside this consideration of the potential cumulative impacts on top of current dredging should be provided in the EIA. Water Injection Dredging (WID) has the potential to release sediments into the water column which could have impacts to designated features within the Mersey, such as smothering.
- 3.3.4. The reuse of dredging materials on site is proposed within the report, primarily within the caissons. It should be noted that if any reuse occurs not within a caisson/part of the construction and is in contact with the marine environment and below Mean High Water Springs (MHWS), reuse will be classed as disposal at sea and a disposal site will need to be designated.
- 3.3.5. In Table 5-17 (Chapter 5) mobilisation and redeposition of contaminated sediments and the effect of the potential temporary increase in contaminant concentrations in the water column and redeposition of contaminated sediments in less contaminated areas has been scoped in. The applicant will use sediment quality data and output from sediment disturbance assessment to identify the effect on contaminant concentrations. This is appropriate and the applicant should therefore request a sediment sample plan from the MMO. It may also impact on the use of potential disposal sites either within the river or further offshore. There is no mention of any chemicals to be used, that are not within machinery, that may come into contact with the marine environment e.g. cleaning products on turbine blades etc. The Applicant should provide any information that any chemicals to be used going forward that will come into contact with the marine environment not used within machinery has been considered.
- 3.3.6. Section 5.10.9 (Chapter 5) states that the *“potential effects from the marine disposal of sediment have been scoped out. This is because it is assumed that, unless otherwise specified, sediment of appropriate quality will be disposed in accordance with all necessary permissions at existing licensed offshore disposal sites or used in an ecological enhancement project which have already undergone rigorous*

environmental assessments (with contaminated sediment to be treated in accordance with regulatory requirements)". The applicant should be aware that until sediment sample analysis has been undertaken and contaminant levels have been assessed the impacts from marine disposal of sediment should not be scoped out. The MMO notes that the applicant will adhere to all necessary permissions and ensure sediment is of the appropriate quality to be disposed of at existing licenced disposal sites, however due to the volume required for disposal and unknown contaminant levels, the impacts should be scoped in. Alongside this an estimate of the maintenance dredging should be provided to determine the potential impacts of any increase in suspended sediment and deposition on designated features, the quantity of material likely to be mobilised due to erosion around structures, as well as cumulative impacts.

- 3.3.7. In Table 30-9 (Chapter 30) the adverse impacts from dredging during construction phase have been scoped out through the embedded measure to avoid disposal to landfill via reuse and disposal to offshore. The applicant should be made aware that until sediment sample analysis has been undertaken and a suitable disposal site (if possible) has been assigned (if below MHWS), then this should not be scoped out. The report concludes that *"No likely significant effects on remaining landfill capacity from dredging activities"*, however if the material is not suitable for disposal at sea or reuse, then a viable option for disposal is landfill.
- 3.3.8. In Table 30-9 (Chapter 30) the scoping report has stated that dredging will be required in order to maintain continuous operation and navigation of the tidal barrage and that disposal of operational dredging materials will be within a licensed marine disposal facility, therefore no likely significant effects will be experienced and has thus been scoped out. The MMO would expect this to remain scoped in until the sediment sampling analysis has been undertaken and the suitability for disposal at sea has been confirmed and the volumes to a specific site(s) when assigned are assessed to ensure that the site is able to accept the volume and quality of the material. It should be noted that on some occasions modelling of disposal may need to be provided to support the disposal of additional material to sites in some instances. Consideration of cumulative impacts of dredging activities should also be considered for use at these sites.
- 3.3.9. Mitigation ID 30-3 (Chapter 30, Table 30-7) states that *"where appropriate, construction materials will be sourced by marine activities such as existing port dredging activities or the reuse of construction phase dredging materials. Project Design will optimise opportunities for reuse of dredging materials in construction elements"*. If the reuse of dredging materials takes place below MHWS and is in contact with the marine environment then this would still constitute disposal at sea and a disposal site will need to be designated. Dredge material stored above MHWS is not fit for use in the marine environment (unless fully isolated e.g. within the construction).
- 3.3.10. Mitigation ID 30-5 (Chapter 30, Table 30-7) states *"disposal of operational dredging materials will be within a marine disposal facility or may contribute to a marine enhancement project within the locality. Disposal location will either be under control by the Applicant or under agreement with a third party"*. If material is planned to be disposed at sea, then the material for disposal will need to undergo sediment sampling and contaminant analysis to determine its suitability for disposal at sea. Any marine enhancement project (i.e. beneficial use) will also likely require the material to be

analysed for contaminants. A pre-application sample plan will need to be requested from the MMO and once complete an application for a dredge and disposal licence can be sought.

- 3.3.11. Once the final location for the tidal barrage has been determined and the dredging methodology has been decided, the MMO would expect the dredge methodology mitigation measures to be appropriately identified to reflect the contaminant levels within the material e.g. the use of an enclosed (“clamshell”) bucket if utilising backhoe or grab dredging with material containing elevated but acceptable contaminant levels.
- 3.3.12. Chapter 30 (Section 30.10.2) has not considered the impacts from disposing of the material at an offshore disposal site (e.g. disposal volume, sediment contaminant levels, suspended sediment etc.) and how this may have the potential to act cumulatively with impacts from other developments. This is an impact that would need to be considered in the ES, please see comment in paragraph 3.3.8.
- 3.3.13. Overall, most impacts relating to dredge and disposal have been scoped in, however some impacts scoped out should remain scoped in until sediment sampling analysis has been completed and suitability for disposal at sea has been determined. It is not explicitly clear if the applicant has decided to request a sample plan and gain a licence for the dredge and disposal outlined in the scoping report, and therefore the MMO has recommended this within the advice above. Consideration of the potential impacts on designated features and water quality of increased suspended sediments and deposition as a result of erosion during construction and from the water injection maintenance dredging, together with cumulative impacts of dredge disposal from construction is also recommended. The quality and volume of the material to be disposed of is needed to be able to determine whether existing disposal sites are suitable for use and to determine if further modelling is required to support their use.
- 3.3.14. The impact mitigation measures outlined are appropriate, however the MMO would also expect mitigation measures to be explored for dredging methodology once the quality and the volume of material has been determined (e.g. use within construction or disposal to land etc).

3.4 Fisheries and Fish Ecology

- 3.4.1. The potential effects of increased vessel numbers resulting in increased collision risk and increased noise levels has been scoped out from further assessment, due to the high level of vessel activity occurring in the wider Mersey Estuary. The scoping report also states that underwater noise levels generated by vessels is likely to be low and that adverse effects would only occur if fish remained within the immediate vicinity of the vessel. Whilst the MMO agrees that significant impacts to fish from underwater noise from regular vessel traffic in the Mersey are unlikely to occur, we would still expect the Environmental Statement (ES) to acknowledge that a further increase in vessel activity may have some negative consequences. The MMO recommends that underwater noise impacts from vessel activity are scoped in for further assessment

and a discussion, at the very minimum, to ensure impacts from noise and vibration are appropriately assessed and to ensure that any potential barriers to migration are mitigated. The scoping in of underwater noise associated with vessel activity has particular importance when considering the intra-project in-combination effects with other underwater noise generating activities associated with the project, i.e. piling. Please see the recommendations in point 3.4.12 in relation to conducting an appropriate underwater noise assessment for fish.

3.4.2. The MMO recommends that the risk of increased predation of fish species as a result of impoundment is also scoped in, especially for diadromous species undertaking migrations. The MMO notes that there is mention of predation from the potential introduction of non-native species, however there is no mention of predation by native species (mammals, birds and fish) as a direct result of delays to migration caused by the impoundment of the barrage and lagoon. The MMO recommends that the potential impact of 'water temperature changes associated with increased solar radiation of the impounded water and the adverse effects this may have on fish ecology' be scoped in and included in the assessment for fish.

3.4.3. The migration ecology and 'sensitive' seasons for each of the key marine and freshwater fish receptors has been discussed in relation to the works in Section 10.6 of the scoping report. The majority of the species summaries look appropriate, however, there is some disparity between information contained in Sections 10.6.11 - 10.6.16 which details diadromous fish species in the area, specifically the period when Atlantic salmon and sea trout return to rivers; which the Applicant suggests to be between September to November. Typically, for salmonids in the Northwest of the UK the period of upstream migration would be much wider; April to December. There is a fish trap and fish counter on the neighbouring River Dee that will provide data on the seasonality of returning adult Atlantic salmon and sea trout which the Applicant could use to inform their assessment. Please contact the Galloway Fisheries Trust and this link for more information:

<https://storymaps.arcgis.com/stories/fba19498695342dbb06eca2366f83450>.

Conversely, in Table 10-9 adult salmon migration is stated as occurring from March to December, which sounds more appropriate. The MMO recommends this information is clarified in the ES. Additionally, Sea trout has not been included in Table 10-9 and this should be included as a diadromous fish receptor in Table 10-9 of the ES.

3.4.4. The Approach to the scoping assessment seems appropriate and in-line with projects of a similar nature. Some initial desk-based research has been carried out using a range of publicly available data sources outlined in Table 10-8 of the Scoping Report. A series of fisheries surveys has also been proposed to be carried out to supplement the existing baseline information. These include: a multi-method intertidal and shallow subtidal fish surveys (Seine nets, fyke nets and beam trawls) that will be undertaken quarterly over a 1–2-year period; Subtidal ichthyoplankton sampling; taking fin clips to inform population genetics of salmon, smelt and bass; a subtidal epibenthic trawl to characterise fish species to provide seasonal catch per unit effort (CPUE) and length-frequency distributions; and seabed sediment grab sampling to inform Particle Size

Analysis (PSA).

- 3.4.5. The MMO recommends further information be provided on what fish species are intended to be targeted with the subtidal epibenthic trawl and what seasons/months will be surveyed. It should be recognised that an epibenthic beam trawl is only suitable for targeting small and juvenile benthic dwelling fish but it is not an appropriate survey method for larger adult fish, including some key species of concern related to this location, e.g. Atlantic cod. A larger beam trawl and otter trawl are likely to be more appropriate for use in the surveys, particularly for cod and other gadoids. The frequency and timing of surveys should also be considered to ensure that seasonal variations in species abundance is adequately captured.
- 3.4.6. The scoping report states that sandeel dredge and otter trawl surveys have now been scoped out of the assessment. In Section 10.7.4 justification has been provided for scoping out sandeel dredge surveys from the assessment which seems appropriate. However, the report states that *“beach seine and beam trawl methods are to be used and therefore no further project-specific pelagic fish survey methods are required and as such otter trawls are not proposed as part of the planned project-specific survey programme”*. The MMO notes that although beach seines may be an appropriate survey method for some pelagic juvenile species, it will not capture the full range of potential pelagic species likely to use the Mersey Estuary as a shelter and/or nursery ground. Moreover, beam trawling is a bottom-towed gear and is not an appropriate method for targeting (some) demersal, mid-water and pelagic species. If the applicant wishes to sample adult pelagic species, a mid-water trawl would be a more appropriate survey technique.
- 3.4.7. The MMO does not agree with the justification for scoping out otter trawl surveys based on the suggestion that pelagic species will be captured in other survey techniques. Otter trawls are bottom-towed gears, which may capture some pelagic species as the trawl rises from the seabed to the surface, but ultimately are not designed to target pelagic species. Otter trawls are typically used to target demersal species, such as Gadoids i.e. cod. Cod are considered a species of importance in the Mersey due to the species being targeted by commercial, charter and recreational fishers. The MMO notes the reference to the use of the National Fish Populations Database (NFPD) which does include some otter trawl survey data as well as stating the use of beam and otter trawl survey data conducted between 2002 and 2019 outside of the Mersey Estuary (Section 10.6.8). However, no detailed information has been specified on these data. In the absence of this information, the approach to data gathering to inform the characterisation for fish requires further details. In the absence of this information, the MMO recommends that otter trawl surveys are conducted in winter, spring, summer and autumn, to ensure that the seasonality of fish species presence is fully captured throughout the year. Details of the otter trawl gear such as mesh size and any ground gear should be provided in the ES, though this may depend on the vessel to be chartered. A brief summary should be provided of the survey approach, e.g., tow distance/duration, survey station locations, together with particulars of the gears (survey methods and timing can be agreed in consultation with the MMO and Cefas).
- 3.4.8. There is an Eel Management Plan (EMP) for the European eel in the wider Mersey

area which may be useful at informing the assessment, though it is a regional plan so covers a much wider area of Northwest England. More information on this can be found here:

<https://www.gov.uk/government/publications/implementation-of-uk-eel-management-plans-2017-to-2020>

- 3.4.9. Cefas conduct an annual beam trawl survey during September which covers the Bristol Channel and the Irish Sea and includes a number of stations within Liverpool Bay. This long-term data series may provide further useful data for the baseline characterisation (on demersal species) in the wider region. The survey is carried out under the EU framework directive and data are available to download from the International Council for the Exploration of the Seas (ICES) data portal: Datras website.
- 3.4.10. The MMO notes that the Northwestern Inshore Fisheries Conservation Authority (NWIFCA) and the National Federation of Fishermen's Organisations (NFFO) have been contacted to gain information on the local fishing fleet. The MMO recommends that the local small-scale/inshore fishing federations/organisations in the wider Mersey, Liverpool and Wirral area are also contacted to ensure the under 10m fleet is fully represented and appropriately assessed, as this sector is often more vulnerable to the effects of displacement, particularly if static gear fishers are displaced into areas typically fished by mobile gears resulting in conflicts. Furthermore, the sector, including the local charter fishers is often marginalised when compared to large-scale and industrial fisheries, because much of the fisheries spatial and temporal data (Vessel Monitoring System (VMS), Automatic Information System (AIS) tracking data) that is used to monitor and represent the spatial and temporal behaviours of these sectors is under used and under studied for smaller and inshore fleets, leaving them disproportionately under-represented (Chuenpagdee et al., 2012; Metcalfe et al., 2017). Additionally, for vessels of 10m and under, there has not been a statutory requirement for fishermen to declare their catches, although spatial and temporal information on their landings is generated from the sales notes and the MMO officers' local knowledge of the fishery (Galparsoro *Applicant* 2024). Although it should be noted that this approach to data recording has recently been replaced by the MMO CatchApp. This can result in the operational range of small-scale fishers being underestimated, leading to fishers being displaced from important fishing grounds (Birchenough et al., 2021; Behivoke et al., 2021). The MMO notes the use of the Cefas UK Inshore Fishing Activities Intensity and the Cefas Inshore Fishing Effort as determined from fishing vessel sightings however, neither source provide recent data. The MMO supports the decision to contact the MMO regarding the roll out of inshore Vessel Monitoring System (iVMS) for under 12m vessels and depending on when the assessment is conducted, more recent spatial and temporal data may be available in some form. Therefore, the MMO recommends this data is included in the assessment, if possible, to ensure the activity of under 12m vessels can be accurately quantified and appropriate mitigation/compensation can be applied if necessary.
- 3.4.11. The MMO recommends considering the following key points if undertaking an underwater noise impact assessment for fish is deemed appropriate:

- Fish species with spawning or nursery grounds in the area, and those species that are known to migrate through the Mersey Estuary should be classified into one of the four categories based on the hearing capabilities and presence/absence of a swim bladder - please refer to Popper et al. (2014) for further details.
- Please also refer to Popper et al. (2014) for sound exposure guidelines on noise thresholds for mortality, potential mortal injury and recoverable injury, temporary threshold shift (TTS) and behavioural responses for fish for impulsive noise (e.g. percussive piling) and continuous noise (e.g., vibro piling).
- The underwater noise assessment should be presented using appropriate unweighted metrics, supported by underwater noise modelling or by case studies of a similar nature to support conclusions made on the likelihood and significance of impacts to fish from piling.
- The modelled/predicted impact ranges for underwater noise should be discussed in the context of the width of the Mersey Estuary where the project will be located to determine the likelihood of an acoustic 'barrier' to fish movement and migration.
- If concurrent/simultaneous piling activity is proposed, this should also be included in the modelling or considered when sourcing supporting case study information.
- The timing of piling and dredging works should be provided, together with a description of the number and size of the piles, typical duration of installation (per pile), and the number of piles to be installed per day, so that any overlap in construction and dredging activities with the spawning and migratory periods of fish can be identified.

3.4.12. The scoping report states that an Outline Construction Environmental Management Plan (OCEMP) will be prepared and submitted as part of the ES to record mitigation measures proposed to minimise potential effects such as noise, vibration, dust and disturbance to terrestrial and marine receptors. The OCEMP will be the mechanism that ensures the successful management of the likely environmental effects resulting from the construction activities. Another embedded mitigation measure proposed is the Vessel Management Plan (VMP) that will be developed and adhered to during the construction of the project. The VMP will confirm the types and numbers of vessels that will be engaged on the project and consider vessel coordination including indicative transit route planning. As part of the VMP a Code of Conduct will be issued to all vessel operators to advise on how to avoid impacts upon fish, including reducing risk of INNS introduction. Additional measures proposed to prevent and reduce effects may also be considered such as the use of; behavioural deterrents (e.g. Acoustic Fish Deterrents (AFDs), lights, bubble curtains, early warning systems and predator control. The MMO welcomes the inclusion of these embedded mitigation measures. The impact or receptor specific mitigation has not been discussed at this stage as it is dependent on the outcome of the EIA.

3.4.13. The approach to the cumulative effects assessment has been outlined which considers both intra-project combined effects and inter-project cumulative effects, this approach seems appropriate and in line with projects of a similar nature. A list of

projects that show potential to share cumulative effects has not yet been provided, however, this will be provided in the ES.

3.5 Shellfish

- 3.5.1. It is yet to be determined whether shellfish surveys are to be carried out, and this will be informed by desk-based analysis and consultation. The baseline data used were from desk-based studies, while they provide a guideline, the MMO recommends using more recent data to characterise the baseline for shellfish ecology. The MMO notes that an information request will be made to the NW IFCA for the catch statistics from the commercial cockle and mussel fisheries to inform the EIA assessment.
- 3.5.2. The MMO notes that a shellfish logbook scheme will be used, where engagement with fishers will take place to inform shellfish landings within the study area and inform the presence of shellfish species. The MMO acknowledges that this will be relevant for the characterisation of commercial shellfish species, however, non-commercial shellfish species may not be captured by this scheme.
- 3.5.3. Furthermore, there is limited data sources which would appropriately characterise shellfish species. In addition to surveys currently planned the use of shellfish specific surveys should be considered to assess the abundance of shellfish species (e.g., potting survey for crabs). A non-shellfish specific fishing gear (e.g., beam trawl) or shellfish gear not intended for the target species would only provide presence/absence data only, as the data is unlikely to produce accurate abundance estimates.
- 3.5.4. The applicant has outlined in Table 10-13 of the Scoping Report, embedded mitigation measures. Further measures will evolve over the development process as the EIA progresses and in response to consultation. No specific measures for shellfish have been described at this stage, which is appropriate as this a scoping report.
- 3.5.5. Chapter 31 outlines the methodology. The assessment of potential cumulative and inter-related impacts and effects on the physical and biological environment will be described within the ES chapters. The MMO agrees with this approach.
- 3.5.6. The scoping report refers to clams (various species). During the EIA process the MMO would expect all shellfish species to be listed with their scientific name.

3.6 Underwater Noise

- 3.6.1. There are several proposed activities which will generate underwater noise; these include piling (percussive or vibro-piling), dredging, land reclamation activities (namely the landfalls of the tidal barrage, and the Marine Navigation System), noise from vessel movements during construction, and operational noise from the turbines.

3.6.2. Table 8-12 in Chapter 8 Marine Mammals sets out the likely significant effects on marine mammals. It is appropriate that the following effects have been scoped in for further assessment (which may result in behavioural disturbance, exclusion and displacement, injury or mortality):

- Increased noise and vibration from:
 - Vessel movements
 - Construction activities including piling
 - Operational turbines
 - The removal of sluice gates/turbines (decommissioning stage).

It is not explicitly clear in Table 8-12, but the MMO presumes that underwater noise from dredging operations would also be considered and scoped in for marine mammals, as well as any additional sources that will generate underwater noise (aside from piling).

3.6.3. A similar table has been presented for fish and shellfish (Table 10-14 in Chapter 10) which appropriately scopes in the effects of increased underwater noise and vibration during piling, dredging and armour placement, on the basis that *“construction, operation and decommissioning activities will result in the generation of underwater noise, which has the potential to cause mortalities, injuries and behavioural effects on fish and shellfish species”*.

3.6.4. The MMO note that the effects of increased noise and vibration from (i) operational turbines and (ii) from the removal of sluice gates/turbines (decommissioning stage) have been scoped in for marine mammals, however, these effects are not considered for fish and shellfish receptors. The MMO would expect such effects to be scoped in for fish and shellfish receptors, as well as marine mammals.

3.6.5. Increased noise and vibration from vessel activity has been scoped out for fish and shellfish receptors on the basis that *“underwater noise generated from vessels is likely to be low and effects would only occur if fish remained within immediate vicinity of the vessel (i.e. within metres) for a number of hours which is highly unlikely, as fish will move away from any noise. Furthermore, existing vessel traffic within the Mersey Estuary is high (Chapter 16: Shipping and Navigation) and the increase in vessel activity as a result of the Project is unlikely to significantly increase baseline noise levels. Therefore, underwater noise as a result of increased vessel activities has been scoped out from further assessment during all phases of the project”* (section 10.11.6 of Chapter 10).

The MMO agrees that as existing vessel traffic within the Mersey Estuary is high, the increase in vessel activity as a result of the Project is unlikely to significantly increase baseline noise levels. However, the statement that effects would only occur if fish remained within immediate vicinity of the vessel for a number of hours is not correct. Short term exposure to vessel noise can also affect fish receptors by masking or disrupting communication and altering fish behaviour. Vessel noise can also lead to physiological effects. On that basis, the MMO does not believe that sufficient justification has been provided to scope out underwater noise as a result of increased

vessel activities. The MMO recommends that the potential effects of vessel noise are appropriately considered.

- 3.6.6. The overall approach to the scoping assessment and data gathering is appropriate. The MMO welcomes that the underwater noise and vibration assessment will be presented as a technical appendix to the ES, and will be further discussed within the relevant ES chapters.
- 3.6.7. The detailed scope, specification and methodology of the noise propagation modelling will be discussed and agreed with the relevant stakeholders accordingly (paragraph 12.5.6). The assessment will include (i) Source noise level characterisation for piling (percussive or vibro-piling), dredging and land reclamation activities (namely the landfalls of the tidal barrage, and the Marine Navigation System), as well as noise from vessel movements during construction and operational noise from the turbines, (ii) Noise propagation modelling to estimate potential impact ranges to marine mammals, fish and shellfish as a result of construction activity, and (iii) Consideration of any operational and decommissioning underwater noise and vibration effects that may arise. It is appropriate that discussion and agreement of the worst case spatial and temporal project parameters will be included (e.g. the water depth at which piling will take place, and the subsequent number of strikes per pile across a 24-hour period). The MMO recommends that any underwater noise modelling undertaken is clear and transparent, and all modelling assumptions and parameters are clearly specified in the appendix.
- 3.6.8. Table 12-2 summarises the embedded environmental measures relevant to underwater noise. The MMO welcomes that a Marine Mammal Mitigation Protocol (MMMP) will be developed and agreed. This will mitigate potential impacts from underwater noise on marine mammals and fish through good or standard practice actions, including soft-start and ramp-up measures for pile driving, to meet legislative requirements. The MMMP will evolve during the development phase and as the EIA progresses and in response to consultation.
- 3.6.9. Furthermore, Table 8-11 in Chapter 8 sets out the embedded environmental measures for marine mammals. A VMP will also be developed and adhered to during the construction of the Project. The VMP will confirm the types and numbers of vessels that will be engaged on the Project and consider vessel coordination including indicative transit route planning. The MMO also notes in Table 8-11 that a Construction Noise Management Plan will be adhered to – this will involve monitoring the noise during piling including wind speed and direction as well as implementing use of slow and soft starts during piling activities. No further details are provided at this time. The MMO considers this appropriate.

3.7 Nature Conservation

3.7.1. The MMO defers to Natural England and the Joint Nature Conservation Committee as the Statutory Nature Conservation Bodies (SNCBs) on the suitability of the scope of the assessment with regards to designated sites.

3.8 Marine Archaeology

3.8.1 The MMO defers to Historic England on the suitability of the scope of the assessment with regards to marine archaeology impacts.

3.9 Navigation / Other Users of the Sea

3.9.1. The MMO notes that the works may cause a range of impacts on shipping and navigational features and other users of the sea during construction, operation and maintenance, and decommissioning phases of the Projects.

3.9.2. The MMO defers to the Maritime Coastguard Agency, Trinity House and Chamber of Shipping, on the suitability of the scope of the assessment with regards to navigation of vessels.

3.10 General Comments

3.10.1. Chinese Mitten crabs have been found locally and recently within the River Mersey. The Biosecurity plans appear to involve prevention techniques for INNS, however these should also include a section on what to do if these species are found. This should include where to report it, whether the species should be humanely killed, removed or left where found and how it can be disposed of. However, the MMO largely defers to the Environment Agency for their opinion on invasive species.

3.10.2. Fishers in the area are aware of the project and are key stakeholders as their livelihoods rely on being able to fish in the Mersey. However, it appears as if some groups of fishers have not been contacted regarding how the project will impact them. Therefore, small inshore fishers should be contacted as soon as possible in order to get their input. It should also be confirmed if a Fisheries Liaison Officer is currently in place and if so, if their contact details can be passed onto the fishers.

4. Conclusion

The MMO has reviewed the Scoping Report and has provided advice for the applicant, and also included comments that the MMO would expect to be addressed in the ES.

This consultation response, however, should not necessarily be seen as a definitive list of all EIA requirements. Given the scale and programme of the proposed development, other work may prove necessary.

Yours Sincerely



Yvonne Golightly

Marine Licensing Case Officer

D [REDACTED]

E [REDACTED] [marinemanagement.org.uk](mailto:[REDACTED]@marinemanagement.org.uk)

5. References

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Maritime &
Coastguard
Agency

Maritime and Coastguard Agency
UK Technical Services Navigation
105 Commercial Road
Southampton
SO15 1EG

Environmental Services
Operations Group 3
Temple Quay House
2 The Square
Bristol, BS1 6PN
By email to: merseytidal@planninginspectorate.gov.uk

www.gov.uk/mca
16 October 2024

Your reference: EN0110006

Dear Sir/Madam

Application by Mersey Tidal Power Project (the Applicant) for an Order granting Development Consent for the Mersey Tidal Power Project (the Proposed Development)

Scoping consultation

Thank you for your letter dated 19 September 2024 requesting comments on the Mersey Tidal Power Project scoping report. The MCA has reviewed the scoping report provided by Mersey Tidal Power and would like to comment as follows:

The Maritime and Coastguard Agency (MCA) is an Executive Agency of the Department for Transport and is responsible throughout the UK for implementing and developing the UK Government's maritime safety and environmental protection policy. This includes co-ordinating maritime Search and Rescue (SAR) through His Majesty's Coastguard 24 hours a day, and checking that ships meet UK and international safety rules. The MCA works to prevent the loss of lives at the coast and at sea, to ensure that vessels are safe, and to prevent coastal pollution. The UK Technical Services Navigation Branch is responsible for implementing international radiocommunication and navigation policies in the UK. This primarily covers SOLAS Convention (Safety of Life at Sea Convention 1974, as amended) Chapters IV and V; the COLREG Convention (International Regulations for Preventing Collisions at Sea 1972, as amended); and the ITU Convention (International Telecommunications Convention 1932, as amended). The MCA has an interest in the works associated with the marine environment, and the potential impact on the safety of navigation, access to ports, harbours and marinas and any impact on our search and rescue obligations.

The Environmental Impact Report should supply detail on the possible impact on navigational issues for both commercial and recreational craft, specifically:

- Collision Risk.
- Navigational Safety.
- Visual intrusion and noise.
- Risk Management and Emergency response.
- Marking and lighting of site and information to mariners.
- Effect on small craft navigational and communication equipment.
- The risk to drifting recreational craft in adverse weather or tidal conditions.

- The likely squeeze of small craft into the routes of larger commercial vessels.

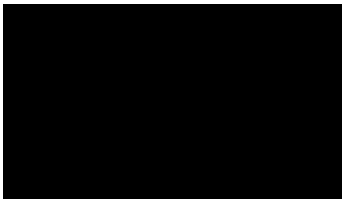
We note that entire development area falls within the Statutory Harbour Authority of Peel Ports. The Port of Liverpool is a strategically important commercial port through which large amounts of commercial and recreational vessels operate, including lifeline ferries, large passenger vessels, container vessels and tankers. Whilst we understand the importance of renewable energy and government targets regarding Net Zero, it is important to preserve the safety of navigation within UK waters. The development must allow port operations to continue without unacceptable impacts to maritime safety and to commercial operations. We note within the Section 16.15 of the Scoping report that a Navigational Risk Assessment will be submitted in accordance with MCA guidance MGN654 and Annex 1: Methodology for Assessing the Marine Navigation Safety & Emergency Response Risks of Offshore Renewable Energy Installations (OREI). This NRA should be accompanied by a detailed MGN654 Checklist, all of which can be found at <https://www.gov.uk/guidance/offshore-renewable-energy-installations-impact-on-shipping>

The scope of the Navigation Risk Assessment (NRA) must be discussed and agreed with the SHA. The applicant will need to liaise and consult with the SHA and develop a robust Safety Management System (SMS) for the project in accordance with the Port Marine Safety Code and its associated Guide to Good Practice, to ensure that the risk and impact on other marine users are As Low As Reasonably Practicable. Further local stakeholder engagement will be required to determine the minimum acceptable provision and to determine the necessary risk mitigation measures for construction and operation of the project.

From the Guide to Good Practice, section 7 Conservancy, a Harbour Authority has a duty to conserve the harbour so that it is fit for use as a port. The harbour authority also has a duty of reasonable care to see that the harbour is in a fit condition for a vessel to be able to use it safely. Section 7.8 Regulating harbour works covers this in more detail.

We note that further consultation will take place with MCA, Trinity House, Chamber of Shipping and port users, including a hazard workshop. The MCA is content with the Scoping report as the basis for the Environmental Impact Assessment and we support the shipping and navigation related impacts which are proposed to be scoped in as identified in Table 16-9. Any further impacts identified as part of the consultation process and hazard workshop should be included into the EIA as necessary.

Yours faithfully,



Nick Salter
Offshore Renewables Lead
UK Technical Services Navigation

From: [ROSSI, Sacha](#)
To: [Mersey Tidal Power Project](#)
Cc: [NATS Safeguarding](#)
Subject: RE: EN0110006 - Mersey Tidal Power Project EIA Scoping notification and consultation [SG38147]
Date: 19 September 2024 16:55:35
Attachments: [image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)
[image009.png](#)
[image012.png](#)
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[image019.png](#)
[image020.jpg](#)

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Dear Sirs,
NATS has no comments to make on the Scoping Opinion.
Regards
S. Rossi
NATS Safeguarding Office



Sacha Rossi
ATC Systems Safeguarding Engineer
D: [REDACTED]

E: [REDACTED]@nats.co.uk
4000 Parkway, Whiteley,
Fareham, Hants PO15 7FL
www.nats.co.uk
[REDACTED]

NATS Internal

From: Mersey Tidal Power Project <merseytidal@planninginspectorate.gov.uk>
Sent: Thursday, September 19, 2024 11:53 AM
Subject: EN0110006 - Mersey Tidal Power Project EIA Scoping notification and consultation

Your attachments have been security checked by Mimecast Attachment Protection. Files where no threat or malware was detected are attached.

Dear Sir/Madam

Please see attached correspondence on the proposed Mersey Tidal Power Project.
The Applicant for the Proposed Development intends to make an application for Development Consent under the Planning Act 2008. The Applicant has sought a Scoping Opinion from the Planning Inspectorate, on behalf of the Secretary of State, as to the scope and level of detail of the information to be provided within the Environmental Statement that will accompany its future application.

The Planning Inspectorate has identified you as a consultation body to inform the Scoping Opinion and is therefore inviting you to submit comments by **16 October 2024**. The deadline is a statutory requirement that cannot be extended.

Further information is included within the attached letter.

Submitted via email to: merseytidal@planninginspectorate.gov.uk

Date: 15/10/2024

Dear Sir/Madam,

Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11

Application by Liverpool City Region Combined Authority (the Applicant) for an Order granting Development Consent for the Mersey Tidal Power Project (the Proposed Development)

I refer to your email dated 19/09/2024 regarding the above proposed DCO. This is a response on behalf of National Gas Transmission (NGT). Having reviewed the scoping consultation documents, NGT wishes to make the following comments regarding gas infrastructure which may be affected by proposals.

NGT has land that is located within or in proximity to the Order limits. NGT has land that is leased located within or in proximity to the Order limits. Details of this infrastructure is as follows:

- NG Leasehold – MS594562
- Ancillary apparatus

Please note that NGT has existing easements for these pipelines which provides rights for ongoing access and prevents the erection of permanent / temporary buildings/structures, change to existing ground levels or storage of materials etc within the easement strip.

You should also be aware of NGT's guidance for working in proximity to its assets, further guidance and links are available as follows.

CATHODIC PROTECTION SYSTEM

To ensure a high level of safety and reliability in operation, National Gas Transmission's assets are protected by a cathodic protection system. It is essential that buried steel pipework associated with the transmission and distribution of natural gas is designed, installed, commissioned and maintained to withstand the potentially harmful effects of corrosion and that the corrosion control systems employed are monitored to ensure continued effectiveness. Installations in the vicinity of National Gas Transmission's assets which may potentially interfere with the cathodic protection system must be assessed and approved by National Gas Transmission, and appropriate control measures must be put in place where required.

Installations which have the potential to interfere with National Gas Transmission's Cathodic protection system include (but are not limited to):

1. High voltage cable crossings and parallelism
2. High voltage ac pylon parallelism
3. Battery Energy Storage Systems
4. Third party pipelines with cathodic protection systems
5. PV Solar arrays

Further information on D.C interference can be found in UKOPA/GPG/031 Edition C Microsoft Word - UKOPA GPG 031 DC Interference Ed 1.docx

[Microsoft Word - UKOPA GPG 031 DC Interference Ed 1.docx](#) (hold ctrl and click to access). Further information on A.C. interference can be found in UKOPA/GPG/027 UKOPA Good Practice Guide [UKOPA Good Practice Guide](#) (hold ctrl and click to access)

The safe limits for transfer voltage and impressed current that a high-pressure gas pipeline can be exposed to are outlined in T/PL/ECP/1, T/PL/ECP/2 and BS EN 50122-1. These are the safe limits for non-electrically trained personnel.

Where the Promoter intends to acquire land, extinguish rights, or interfere with any of NGT's apparatus, NGT will require appropriate protection and further discussion on the impact to its apparatus and rights including adequate Protective Provisions. A Deed of Consent will also be required for any works proposed within the easement strip.

Key Considerations:

- NGT has a Deed of Grant of Easement for each pipeline, which prevents the erection of permanent / temporary buildings, or structures, change to existing ground levels, storage of materials etc.
- Please be aware that written permission is required before any works commence within the NGT easement strip. Furthermore, a Deed of Consent will be required prior to commencement of works within NGT's easement strip subject to approval by NGT's plant protection team.
- Any large installations which may result in a large population increase in the vicinity of a high-pressure gas pipeline must comply with the HSE's Land Use Planning methodology, and the HSE response should be submitted to National Gas Transmission for review.
- The below guidance is not exhaustive and all works in the vicinity of NGT's asset shall be subject to review and approval from NGT's plant protection team in advance of commencement of works on site.

General Notes on Pipeline Safety:

- You should be aware of the Health and Safety Executives guidance document HS(G) 47 "Avoiding Danger from Underground Services", and NGT's Dial Before You Dig Specification for Safe Working in the Vicinity of NGT Assets. There will be additional requirements dictated by NGT's plant protection team.
- NGT will also need to ensure that its pipelines remain accessible during and after completion of the works.

- Our pipelines are normally buried to a depth cover of 1.1 metres, however actual depth and position must be confirmed on site by trial hole investigation under the supervision of a NGT representative. Ground cover above our pipelines should not be reduced or increased.
- If any excavations are planned within 3 metres of NGT High Pressure Pipeline or, within 10 metres of an AGI (Above Ground Installation), or if any embankment or dredging works are proposed then the actual position and depth of the pipeline must be established on site in the presence of a NGT representative. A safe working method agreed prior to any work taking place in order to minimise the risk of damage and ensure the final depth of cover does not affect the integrity of the pipeline.
- Below are some examples of work types that have specific restrictions when being undertaken in the vicinity of gas assets therefore consultation with NGT's Plant Protection team is essential:
 - Demolition
 - Blasting
 - Piling and boring
 - Deep mining
 - Surface mineral extraction
 - Landfilling
 - Trenchless Techniques (e.g. HDD, pipe splitting, tunnelling etc.)
 - Wind turbine installation - minimum separation distance of 1.5x the mast/hub height is required, and any auxiliary installations such as cable or track crossings will require a deed of consent.
 - Solar farm installation
 - Tree planting schemes

Traffic Crossings:

- Where existing roads cannot be used, construction traffic should ONLY cross the pipeline at agreed locations.
- Permanent road crossings will require a surface load calculation, and will require a deed of consent.
- The pipeline shall be protected, at the crossing points, by temporary rafts constructed at ground level. The third party shall review ground conditions, vehicle types and crossing frequencies to determine the type and construction of the raft required.
- The type of raft shall be agreed with NGT prior to installation.
- No protective measures including the installation of concrete slab protection shall be installed over or near to the NGT pipeline without the prior permission of NGT

- NGT will need to agree the material, the dimensions and method of installation of the proposed protective measure.
- The method of installation shall be confirmed through the submission of a formal written method statement from the contractor to NGT.
- An NGT representative shall monitor any works within close proximity to the pipeline to comply with NGT specification T/SP/SSW22

New Asset Crossings:

- New assets (cables/pipelines etc) may cross the pipeline at perpendicular angle to the pipeline i.e. 90 degrees.
- The separation distance for a cable >33kV is 1000mm and pre and post energisation surveys may be required at National Gas Transmission's discretion. A risk assessment/method statement will need to be provided to, and accepted by National Gas Transmission prior to the deed of consent being agreed. Where a new asset is to cross over the pipeline a clearance distance of 0.6 metres between the crown of the pipeline and underside of the service should be maintained. If this cannot be achieved the service shall cross below the pipeline with a clearance distance of 0.6 metres.
- A new service should not be laid parallel within an easement strip
- Clearance must be at least 600mm above or below the pipeline
- An NGT representative shall approve and supervise any cable crossing of a pipeline.
- A Deed of Consent is required for any cable crossing the easement

Where the promoter intends to acquire land, extinguish rights, or interfere with any of NGT apparatus, protective provisions will be required in a form acceptable to it to be included within the DCO. NGT requests to be consulted at the earliest stages to ensure that the most appropriate protective provisions are included within the DCO application to safeguard the integrity of our apparatus and to remove the requirement for objection.

Adequate access to NGT pipelines must be maintained at all times during construction and post construction to ensure the safe operation of our network.

Yours Faithfully

Asset Protection Team

Further Safety Guidance

To download a copy of the HSE Guidance HS(G)47, please use the following link:

<https://www.hse.gov.uk/pubns/books/hsg47.htm>

Working Near National Gas Assets

<https://www.nationalgas.com/land-and-assets/working-near-our-assets>

Specification for Safe Working in the Vicinity of National Gas High Pressure Pipelines and Associated Installations

<https://www.nationalgas.com/document/82951/download>

Tree Planting Guidance

<https://www.nationalgas.com/document/82976/download>

Excavating Safely

<https://www.nationalgas.com/document/82971/download>

Dial Before You Dig Guidance

<https://www.nationalgas.com/document/128751/download>

Essential Guidance:

<https://www.nationalgas.com/gas-transmission/document/82931/download>

Solar Farm Guidance

<https://www.nationalgas.com/document/82936/download>

Tiffany Bate
Development Liaison Officer
UK Land and Property
[REDACTED] [nationalgrid.com](https://www.nationalgrid.com)
+44 (0) [REDACTED]

www.nationalgrid.com

SUBMITTED ELECTRONICALLY:
merseytidal@planninginspectorate.gov.uk

15 October 2024

Dear Sir/Madam

APPLICATION BY MERSEY TIDAL POWER PROJECT (THE APPLICANT) FOR AN ORDER GRANTING DEVELOPMENT CONSENT FOR THE MERSEY TIDAL POWER PROJECT (THE PROPOSED DEVELOPMENT)

SCOPING CONSULTATION RESPONSE

I refer to your letter dated 19th September 2024 in relation to the above proposed application. This is a response on behalf of National Grid Electricity Transmission PLC (NGET).

Having reviewed the scoping report, I would like to make the following comments regarding NGET existing or future infrastructure within or in close proximity to the current red line boundary.

NGET has high voltage electricity overhead transmission lines, underground cables and a high voltage substation within the scoping area. The overhead lines and substation forms an essential part of the electricity transmission network in England and Wales.

Existing Infrastructure

Substations

- BIRKENHEAD 275 kV Sub Station
- BIRKENHEAD 132 kV Sub Station
- Associated overhead and underground apparatus including cables

- CAPENHURST 400 kV Sub Station
- CAPENHURST 275 kV Sub Station
- Associated overhead and underground apparatus including cables

- LISTER DRIVE 275 kV Sub Station
- Associated overhead and underground apparatus including cables

Overhead Lines

4ZL 400 kV OHL	BIRKENHEAD - CAPENHURST 1 BIRKENHEAD - CAPENHURST 2
4ZD 400 kV OHL	CAPENHURST - DEESIDE 1 CAPENHURST - DEESIDE 2
4ZE 400 kV OHL	CAPENHURST - FRODSHAM 1 CAPENHURST - FRODSHAM 2
YYS 132 kV OHL	CAPENHURST - INCE 1 CAPENHURST - INCE 2
CZ 400 400 kV OHL	CAPENHURST A - CAPENHURST D
ZO 400 kV OHL	DAINES - DEESIDE 1 DAINES - DEESIDE 2

Cable Apparatus

- BIRKENHEAD - LISTER DRIVE 275 kV underground cable. BIRK2 LISD2 1
- BIRKENHEAD - LISTER DRIVE Tunnel: MERSOSTUN
- FLINTSHIRE BRIDGE - HUNTERSTON HVDC 400 kV. FLIB4 HUNT4 1
- Cable Fibre. 4582
- PILOT CABLE: 70_57135_1,3-3
- PILOT CABLE: 70_57126_55-57
- KIRKBY - LISTER DRIVE 1 275 kV underground cable. KIBY2 LISD2 1

I enclose plans showing the location of NGET's apparatus in the scoping area.

New infrastructure

Please refer to the Holistic Network Design (HND) and the National Grid ESO website to view the strategic vision for the UK's ever growing electricity transmission network. <https://www.nationalgrideso.com/future-energy/the-pathway-2030-holistic-network-design/hnd>

NGET requests that all existing and future assets are given due consideration given their criticality to distribution of energy across the UK. We remain committed to working with the promoter in a proactive manner, enabling both parties to deliver successful projects wherever reasonably possible. As such we encourage that ongoing discussion and consultation between both parties is maintained on interactions with existing or future assets, land interests, connections or consents and any other NGET interests which have the potential to be impacted prior to submission of the Proposed DCO.

The Great Grid Upgrade is the largest overhaul of the electricity grid in generations, we are in the middle of a transformation, with the energy we use increasingly coming from cleaner greener sources. Our infrastructure projects across England and Wales are helping to connect more renewable energy to homes and businesses. To find out more about our current projects please refer to our network and infrastructure webpage. <https://www.nationalgrid.com/electricity-transmission/network-and-infrastructure/infrastructure-projects>. Where it has been identified that your project interacts with or is in close proximity to one of NGET's infrastructure projects, we would welcome further discussion at the earliest opportunity.

These projects are all essential to increase the overall network capability to connect the numerous new offshore wind farms that are being developed, and transport new clean green energy to the homes and businesses where it is needed.

Specific Comments – Electricity Infrastructure:

- NGET's Overhead Line/s is protected by a Deed of Easement/Wayleave Agreement which provides full right of access to retain, maintain, repair and inspect our asset
- Statutory electrical safety clearances must be maintained at all times. Any proposed buildings must not be closer than 5.3m to the lowest conductor. NGET recommends that no permanent structures are built directly beneath overhead lines. These distances are set out in EN 43 – 8 Technical Specification for “overhead line clearances Issue 3 (2004)”.
- If any changes in ground levels are proposed either beneath or in close proximity to our existing overhead lines then this would serve to reduce the safety clearances for such overhead lines. Safe clearances for existing overhead lines must be maintained in all circumstances.
- The relevant guidance in relation to working safely near to existing overhead lines is contained within the Health and Safety Executive's (www.hse.gov.uk) Guidance Note GS 6 “Avoidance of Danger from Overhead Electric Lines” and all relevant site staff should make sure that they are both aware of and understand this guidance.
- Plant, machinery, equipment, buildings or scaffolding should not encroach within 5.3 metres of any of our high voltage conductors when those conductors are under their worse conditions of maximum “sag” and “swing” and overhead line profile (maximum “sag” and “swing”) drawings should be obtained using the contact details above.
- If a landscaping scheme is proposed as part of the proposal, we request that only slow and low growing species of trees and shrubs are planted beneath and adjacent to the existing overhead line to reduce the risk of growth to a height which compromises statutory safety clearances.
- Drilling or excavation works should not be undertaken if they have the potential to disturb or adversely affect the foundations or “pillars of support” of any existing tower. These foundations always extend beyond the base area of the existing tower and foundation (“pillar of support”) drawings can be obtained using the contact details above.
- NGET high voltage underground cables are protected by a Deed of Grant; Easement; Wayleave Agreement or the provisions of the New Roads and Street Works Act. These provisions provide NGET full right of access to retain, maintain, repair and inspect our assets. Hence we require that no permanent / temporary structures are to be built over our cables or within the easement strip. Any such proposals should be discussed and agreed with NGET prior to any works taking place.
- Ground levels above our cables must not be altered in any way. Any alterations to the depth of our cables will subsequently alter the rating of the circuit and can compromise the

reliability, efficiency and safety of our electricity network and requires consultation with National Grid prior to any such changes in both level and construction being implemented.

To download a copy of the HSE Guidance HS(G)47, please use the following link:

<http://www.hse.gov.uk/pubns/books/hsg47.htm>

Further Advice

We would request that the potential impact of the proposed scheme on NGET's existing and future assets as set out above and including any proposed diversions is considered in any subsequent reports, including in the Environmental Statement, and as part of any subsequent application.

Where any diversion of apparatus may be required to facilitate a scheme, NGET is unable to give any certainty with the regard to diversions until such time as adequate conceptual design studies have been undertaken by NGET. Further information relating to this can be obtained by contacting the email address below.

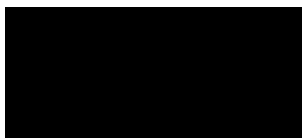
Where the promoter intends to acquire land, extinguish rights, or interfere with any of NGET apparatus, protective provisions will be required in a form acceptable to it to be included within the DCO.

NGET requests to be consulted at the earliest stages to ensure that the most appropriate protective provisions are included within the DCO application to safeguard the integrity of our apparatus and to remove the requirement for objection. All consultations should be sent to the following email address: box.landandacquisitions@nationalgrid.com

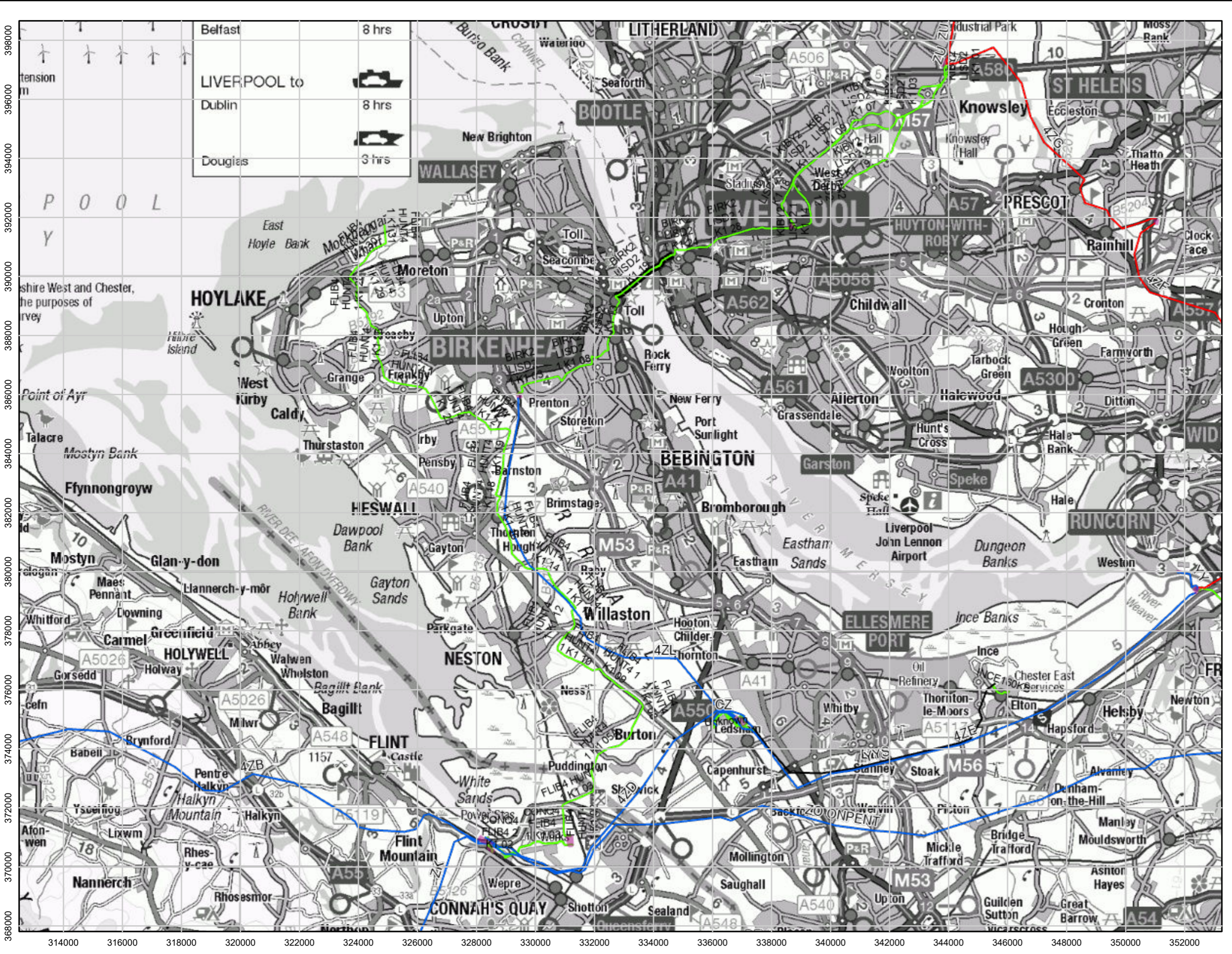
I hope the above information is useful. If you require any further information, please do not hesitate to contact me.

The information in this letter is provided notwithstanding any discussions taking place in relation to connections with electricity customer services.

Yours faithfully



**Tiffany Bate
Development Liaison Officer
Commercial and Customer Connections
Electricity Transmission Land and Property**



Belfast	8 hrs	
LIVERPOOL to	8 hrs	
Dublin	8 hrs	
Douglas	3 hrs	

Legend

ET ASSETS

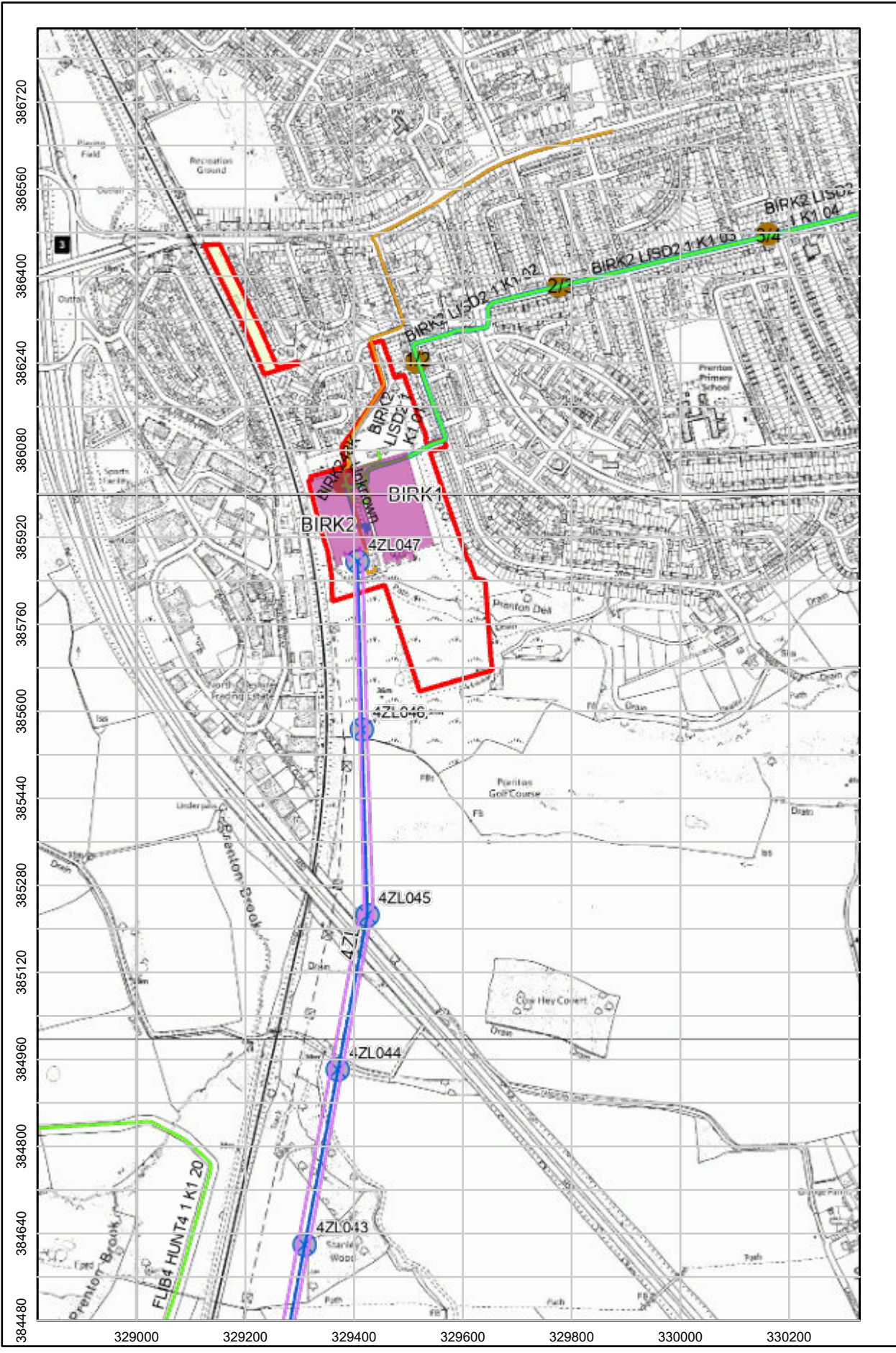
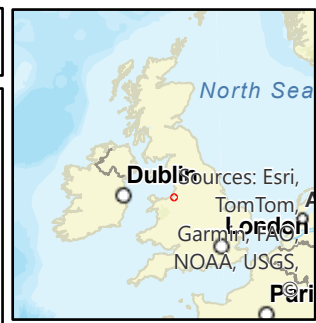
- Cable Tunnel
- Buried Cable
 - Buried Cable
 - Commissioned
- OHL 132kV & Below
 - OHL 132kV & Below
 - Commissioned
- OHL 275kV
 - OHL 275kV
 - Commissioned
- OHL 400kV
 - OHL 400kV
 - Commissioned
- Substations
 - Substations
 - Commissioned

Notes

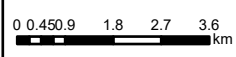
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Notes



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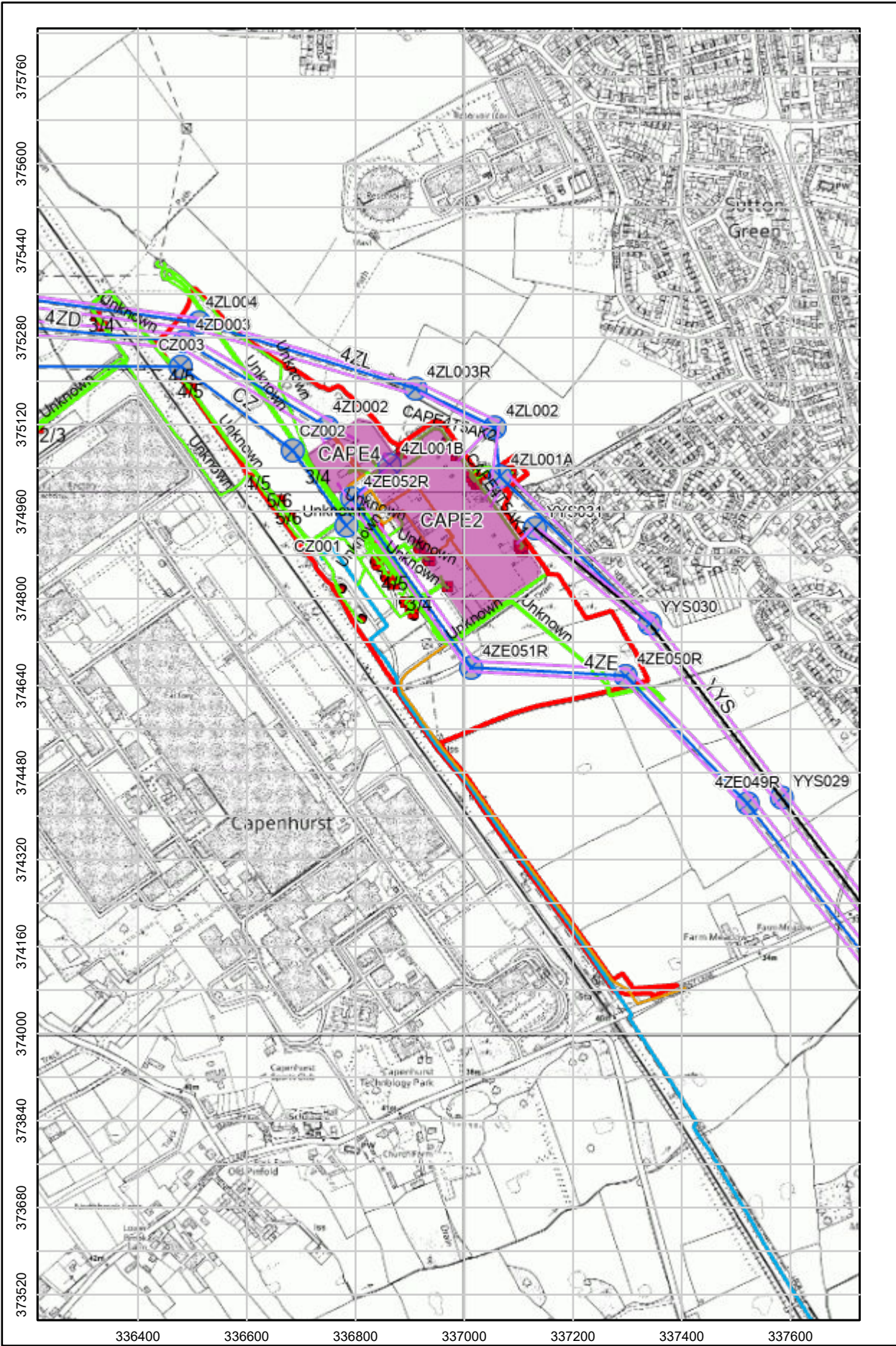
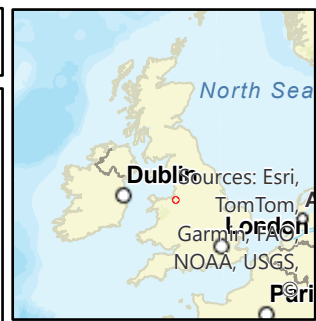
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Legend

Electric Land Ownership

- Electric Land Ownership - Freehold

Cable Accessories

- Joint Bay
- Gauge
- Link Box
- Oil Tank
- Pilot Cable

Fibre Cable

- Fibre Cable Commissioned

Buried Cable

- Buried Cable Commissioned

Towers

- Towers Commissioned

OHL 132kV & Below

- OHL 132kV & Below Commissioned

OHL 400kV

- OHL 400kV Commissioned

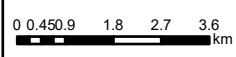
OHL Circuits

- OHL Circuits Commissioned
- OHL Circuits Decommission
- OHL Circuits Group

Substations

- Substations Commissioned

Notes



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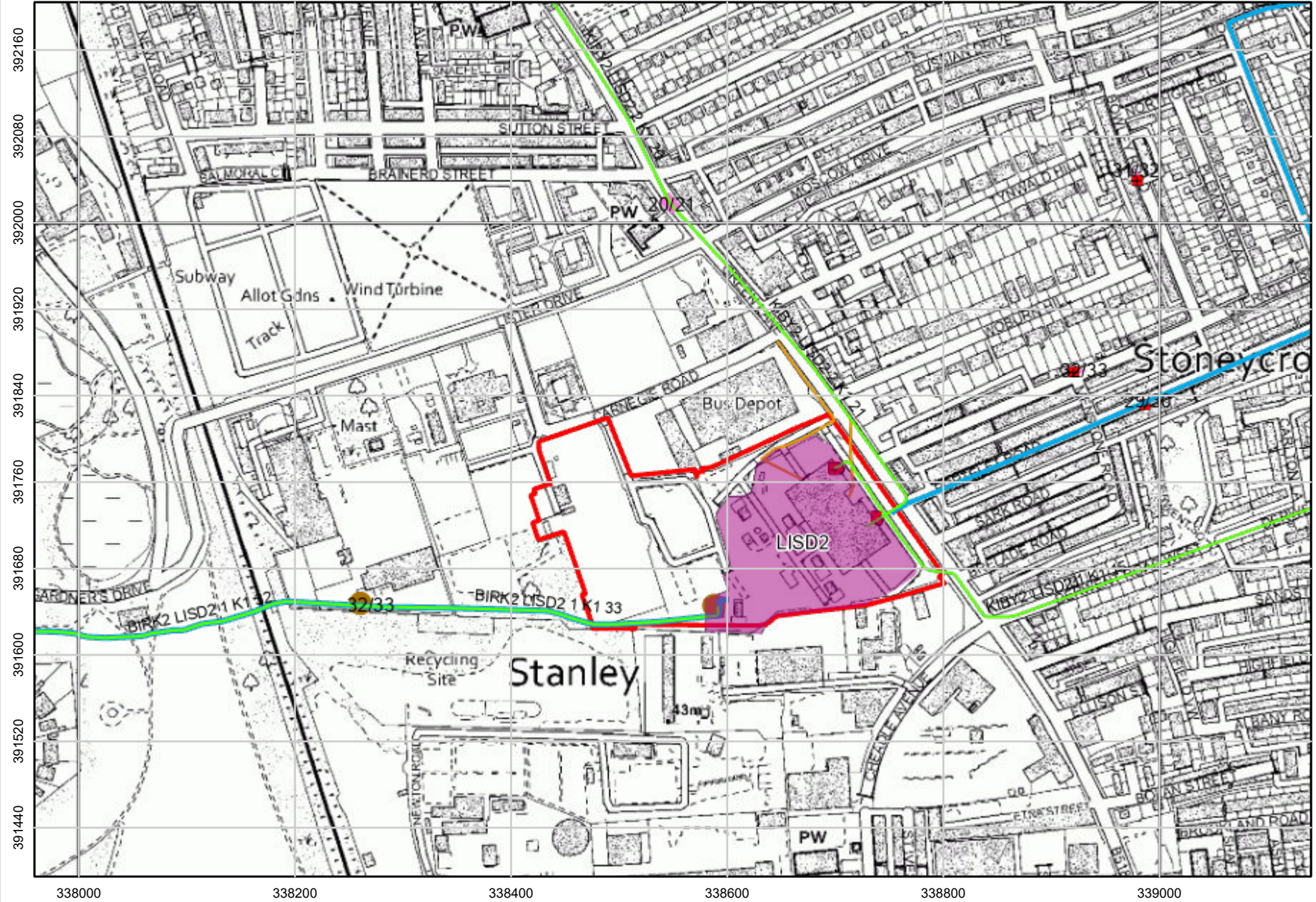
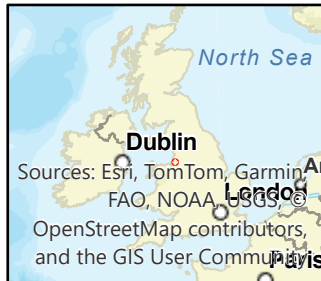
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Legend

Electric Land Ownership

- Electric Land Ownership - Freehold

Telecoms

- RAMM

Cable Accessories

- Oil Pipe
- Joint Bay
- Gauge
- Link Box
- Oil Tank
- Pillar
- Pilot Cable

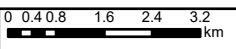
Fibre Cable

- Fibre Cable Commissioned
- Buried Cable Commissioned

Substations

- Substations Commissioned

Notes



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 Time: 7:44 PM Printed By: Tiffany.Bate
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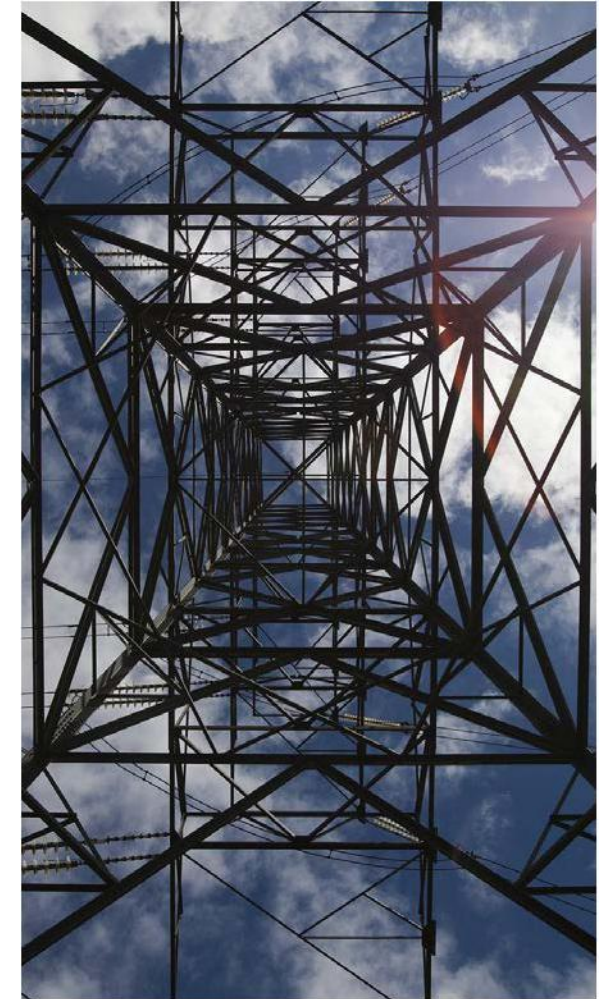
Technical Guidance Note 287

Third-party guidance for working near National Grid Electricity Transmission equipment





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Purpose and scope

The purpose of this document is to give guidance and information to third parties who are proposing, scheduling or designing developments close to National Grid Electricity Transmission assets.

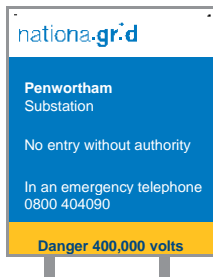
The scope of the report covers information on basic safety and the location of our assets – and also highlights key issues around particular types of development and risk areas.

In the case of electrical assets, National Grid does not authorise or agree safe systems of work with developers and contractors. However, we will advise on issues such as electrical safety clearances and the location of towers and cables. We also work with developers to minimise the impact of any National Grid assets that are nearby.

How to identify specific National Grid sites

Substations

The name of the Substation and emergency contact number will be on the site sign.



Overhead Lines

The reference number of the tower and the emergency contact number will be on this type of sign.



Contact National Grid

Plant protection

For routine enquiries regarding planned or scheduled works, contact the Asset Protection team online, by email or phone.

www.lsbud.co.uk

Email: assetprotection@nationalgrid.com

Phone: 0800 001 4282

Emergencies

In the event of occurrences such as a cable strike, coming into contact with an overhead line conductor or identifying any hazards or problems with National Grid's equipment, phone our emergency number 0800 404 090 (option 1).

If you have apparatus within 30m of a National Grid asset, please ensure that the emergency number is included in your site's emergency procedures.

Consider safety

Consider the hazards identified in this document when working near electrical equipment



Part 1

Electricity transmission infrastructure

National Grid owns and maintains the high-voltage electricity transmission network in England and Wales (Scotland has its own networks). It's responsible for balancing supply with demand on a minute-by-minute basis across the network.

Overhead lines

Overhead lines consist of two main parts – pylons (also called towers) and conductors (or wires). Pylons are typically steel lattice structures mounted on concrete foundations. A pylon's design can vary due to factors such as voltage, conductor type and the strength of structure required.

Conductors, which are the 'live' part of the overhead line, hang from pylons on insulators. Conductors come in several different designs depending on the amount of power that is transmitted on the circuit.

In addition to the two main components, some Overhead Line Routes carry a Fibre Optic cable between the towers with an final underground connection to the Substations.

In most cases, National Grid's overhead lines operate at 275kV or 400kV.

Underground cables

Underground cables are a growing feature of National Grid's network. They consist of a conducting core surrounded by layers of insulation and armour. Cables can be laid in the road, across open land or in tunnels. They operate at a range of voltages, up to 400kV.

Substations

Substations are found at points on the network where circuits come together or where a rise or fall in voltage is required. Transmission substations tend to be large facilities containing equipment such as power transformers, circuit breakers, reactors and capacitors. In addition Diesel generators and compressed air systems can be located there.

Part 2

Statutory requirements for working near high-voltage electricity

The legal framework that regulates electrical safety in the UK is *The Electricity Safety, Quality and Continuity Regulations (ESQCR) 2002*. This also details the minimum electrical safety clearances, which are used as a basis for the Energy Networks Association (ENA) TS 43-8. These standards have been agreed by CENELEC (European Committee for Electrotechnical Standardisation) and also form part of the *British Standard BS EN 50341-1:2012 Overhead Electrical Lines exceeding AC 1kV*. All electricity companies are bound by these rules, standards and technical specifications. They are required to uphold them by their operator's licence.

Electrical safety clearances

It is essential that a safe distance is kept between the exposed conductors and people and objects when working near National Grid's electrical assets. A person does not have to touch an exposed conductor to get a life-threatening

electric shock. At the voltages National Grid operates at, it is possible for electricity to jump up to several metres from an exposed conductor and kill or cause serious injury to anyone who is nearby. For this reason, there are several legal requirements and safety standards that must be met.

Any breach of legal safety clearances will be enforced in the courts. This can and has resulted in the removal of an infringement, which is normally at the cost of the developer or whoever caused it to be there. Breaching safety clearances, even temporarily, risks a serious incident that could cause serious injury or death.

National Grid will, on request, advise planning authorities, developers or third parties on any safety clearances and associated issues. We can supply detailed drawings of all our overhead line assets marked up with relevant safe areas.



« Section continued from previous page

Your Responsibilities - Overhead lines

Work which takes place near overhead power lines carries a significant risk of coming into proximity with the wires. If any person, object or material gets too close to the wires, electricity could 'flashover' and be conducted to earth, causing death or serious injury. You do not need to touch the wires for this to happen. The law requires that work is carried out in close proximity to live overhead power lines only when there is no alternative, and only when the risks are acceptable and can be properly controlled. Statutory clearances exist which must be maintained, as prescribed by the Electricity Safety, Quality and Continuity Regulations 2002.

Under the Health and Safety at Work etc. Act 1974 and Management of Health and Safety at Work Regulations 1999, you are responsible for preparing a suitable and sufficient risk assessment and safe systems of work, to ensure that risks are managed properly and the safety of your workforce and others is maintained. Your risk assessment must consider and manage all of the significant risks and put in place suitable precautions/controls in order to manage the work safely. You are also responsible for ensuring that the precautions identified are properly implemented and stay in place throughout the work.

Work near overhead power lines must always be conducted in accordance with GS6, 'avoiding danger from overhead power lines', and any legislation which is relevant to the work you are completing.

What National Grid will provide

National Grid can supply profile drawings in PDF and CAD format showing tower locations and relevant clearances to assist you in the risk assessment process.

What National Grid will not provide

National Grid will not approve safe systems of work or approve design proposals

Part 3

What National Grid will do for you and your development

Provision of information

National Grid should be notified during the planning stage of any works or developments taking place near our electrical assets, ideally a minimum notification period of 8 weeks to allow National Grid to provide the following services:

Drawings

National Grid will provide relevant drawings of overhead lines or underground cables to make sure the presence and location of our services are known. Once a third party or developer has contacted us, we will supply the drawings for free.

400kV

The maximum nominal voltage of the underground cables in National Grid's network

Risk or impact identification

National Grid can help identify any hazards or risks that the presence of our assets might bring to any works or developments. This includes both the risk to safety from high-voltage electricity and longer-term issues, such as induced currents, noise and maintenance access that may affect the outcome of the development. National Grid will not authorise specific working procedures, but we can provide advice on best practice.





Risks or hazards to be aware of

This section includes a brief description of some of the hazards and issues that a third party or developer might face when working or developing close to our electrical infrastructure.

Land and access

National Grid has land rights in place with landowners and occupiers, which cover our existing overhead lines and underground cable network. These agreements, together with legislation set out under the *Electricity Act 1989*, allow us to access our assets to maintain, repair and renew them. The agreements also lay down restrictions and covenants to protect the integrity of our assets and meet safety regulations. Anyone proposing a development close to our assets should carefully examine these agreements.

Our agreements often affect land both inside and outside the immediate vicinity of an asset. Rights will include the provision of access, along with restrictions that ban the development of land through building, changing levels, planting and other operations. Anyone looking to develop close to our assets must consult with National Grid first.

For further information, contact Asset Protection:

Email: assetprotection@nationalgrid.com
Phone: 0800 001 4282

Electrical clearance from overhead lines

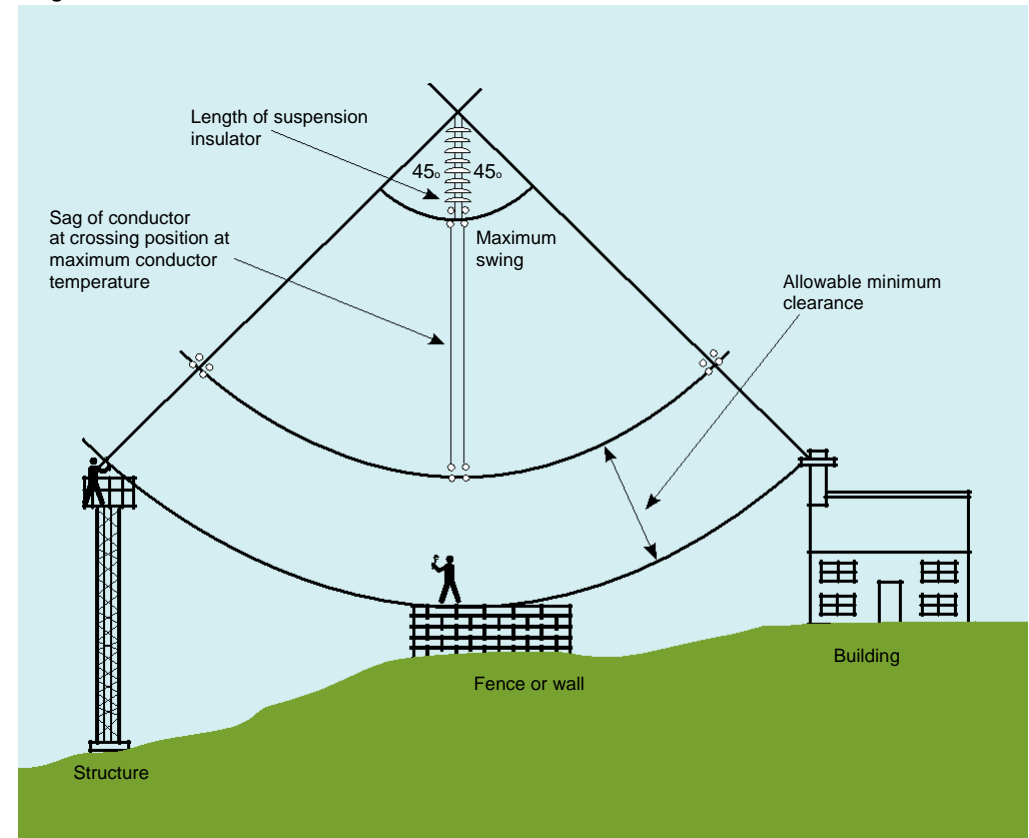
The clearance distances referred to in this section are specific to 400kV overhead lines. National Grid can advise on the distances required around different voltages i.e. 132kV and 275kV.

As we explained earlier, *Electrical Networks Association TS 43-8* details the legal clearances to our overhead lines. The minimum clearance between the conductors of an overhead line and the ground is 7.3m at maximum sag. The sag is the vertical distance between the wire's highest and lowest point. Certain conditions, such as power flow, wind speed and air temperature can cause conductors to move and allowances should be made for this.

The required clearance from the point where a person can stand to the conductors is 5.3m. To be clear, this means there should be at least 5.3m from where someone could stand on any structure (i.e. mobile and construction equipment) to the conductors. Available clearances will be assessed by National Grid on an individual basis.

National Grid expects third parties to implement a safe system of work whenever they are near Overhead Lines.

Diagram not to scale



There should be at least 5.3m between the conductors and any structure someone could stand on

We recommend that guidance such as *HSE Guidance Note GS6 (Avoiding Danger from Overhead Power Lines)* is followed, which provides advice on how to avoid danger from all overhead lines, at all voltages. If you are carrying out work near overhead lines you must contact National Grid, who will provide the relevant profile drawings.

7.3m

The required minimum clearance between the conductors of an overhead line, at maximum sag, and the ground

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The undergrounding of electricity cables at Ross-on-Wye

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Underground cables Underground cables operating at up to 400kV are a significant part of the National Grid Electricity Transmission network. When your works will involve any ground disturbance it is expected that a safe system of work is put in place and that you follow guidance such as *HSG 47 (Avoiding Danger from Underground Services)*.

You must contact National Grid to find out if there are any underground cables near your proposed works. If there are, we will provide cable profiles and location drawings and, if required, on-site supervision of the works. Cables can be laid under roads or across industrial or agricultural land. They can even be layed in canal towpaths and other areas that you would not expect.

Cables crossing any National Grid high-voltage (HV) cables directly buried in the ground are required to maintain a minimum separation that will be determined by National Grid on a case-by-case basis. National Grid will need to do a rating study on the existing cable to work out if there are any adverse effects on either cable rating. We will only allow a cable to cross such an area once we know the results of the re-rating. As a result, the clearance distance may need to be increased or alternative methods of crossing found.

For other cables and services crossing the path of our HV cables, National Grid will need confirmation that published standards and clearances are met.

Impressed voltage

Any conducting materials installed near high-voltage equipment could be raised to an elevated voltage compared to the local earth, even when there is no direct contact with the high-voltage equipment. These impressed voltages are caused by inductive or capacitive coupling between the high-voltage equipment and nearby conducting materials and can occur at distances of several metres away from the

equipment. Impressed voltages may damage your equipment and could potentially injure people and animals, depending on their severity. Third parties should take impressed voltages into account during the early stages and initial design of any development, ensuring that all structures and equipment are adequately earthed at all times.

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Earth potential rise

Under certain system fault conditions – and during lightning storms – a rise in the earth potential from the base of an overhead line tower or substation is possible. This is a rare phenomenon that occurs when large amounts of electricity enter the earth. This can pose a serious hazard to people or equipment that are close by.

We advise that developments and works are not carried out close to our tower bases, particularly during lightning storms.

Noise

Noise is a by-product of National Grid's operations and is carefully assessed during the planning and construction of any of our equipment. Developers should consider the noise emitted from National Grid's sites or overhead lines when planning any developments, particularly housing. Low-frequency hum from substations can, in some circumstances, be heard up to 1km or more from the site, so it is essential that developers find adequate solutions for this in their design. Further information about likely noise levels can be provided by National Grid.

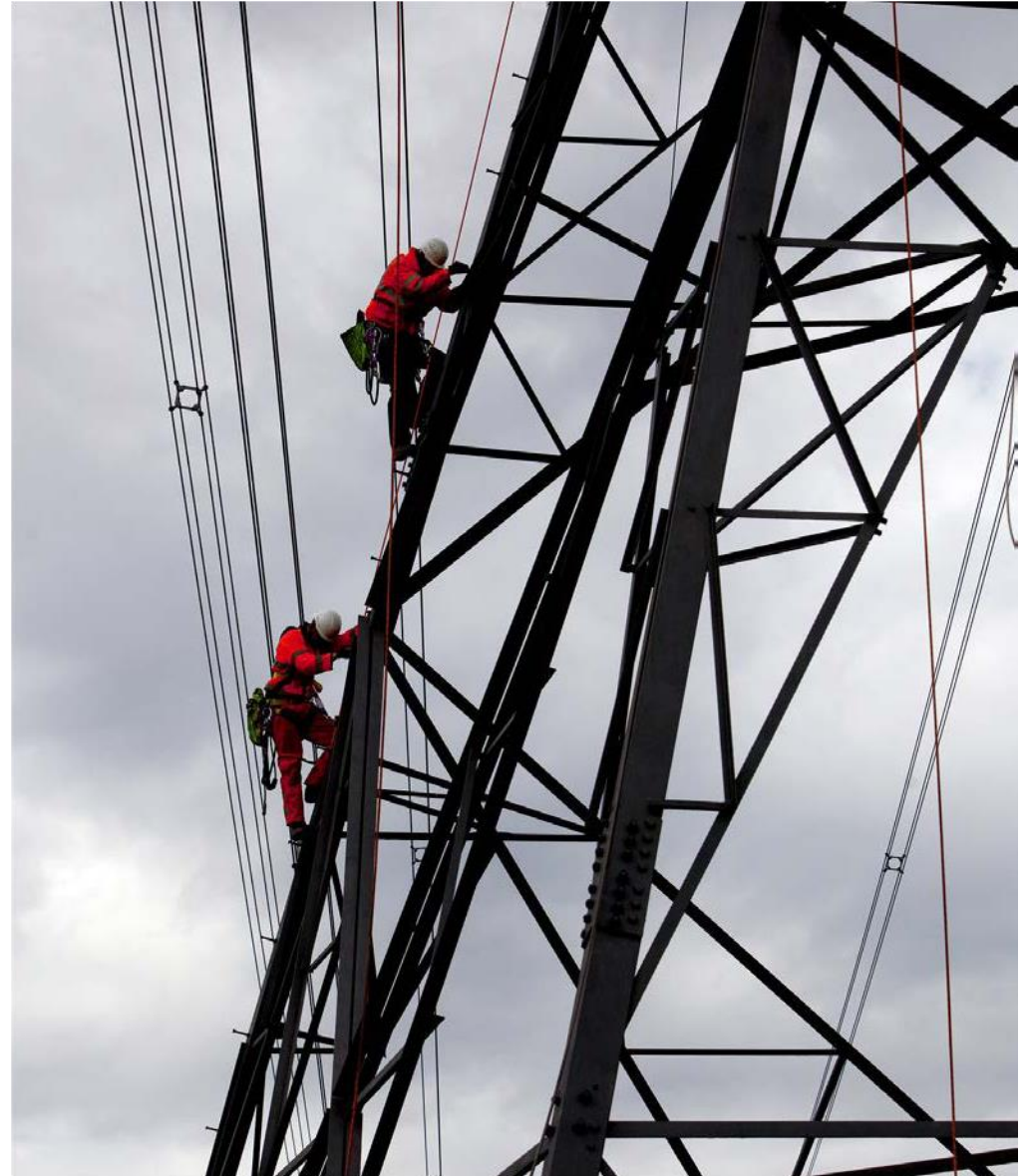
Maintenance access

National Grid needs to have safe access for vehicles around its assets and work that restricts this will not be allowed. In terms of our overhead lines, we wouldn't want to see any excavations made, or permanent structures built, that might affect the foundations of our towers. The size of the foundations around a tower base depends on the type of tower that is built there. If you wish to carry out works within 30m of the tower base, contact National Grid for more information. Our business has to maintain access routes to tower bases with land owners. For that reason, a route wide enough for an HGV must be permanently available. We may need to access our sites, towers, conductors and underground cables at short notice.

30m

If you wish to carry out work within this distance of the tower base, you must contact National Grid for more information

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Fires and firefighting

National Grid does not recommend that any type of flammable material is stored under overhead lines. Developers should be aware that in certain cases the local fire authority will not use water hoses to put out a fire if there are live, high-voltage conductors within 30m of the seat of the fire (as outlined in ENA TS 43-8).

In these situations, National Grid would have to be notified and reconfigure the system – to allow staff to switch out the overhead line – before any firefighting could take place. This could take several hours.

We recommend that any site which has a specific hazard relating to fire or flammable material should include National Grid's emergency contact details (found at the beginning and end of this document) in its fire plan information, so any incidents can be reported.

Developers should also make sure their insurance cover takes into account the challenge of putting out fires near our overhead lines.

Excavations, piling or tunnelling

You must inform National Grid of any works that have the potential to disturb the foundations of our substations or overhead line towers. This will have to be assessed by National Grid engineers before any work begins.

BS ISO 4866:2010 states that a minimum distance of 200m should be maintained when carrying out quarry blasting near our assets. However, this can be reduced with specific site surveys and changes to the maximum instantaneous charge (the amount of explosive detonated at a particular time).

All activities should observe guidance layed out in *BS 5228-2:2009*.

Microshocks

High-voltage overhead power lines produce an electric field. Any person or object inside this field that isn't earthed picks up an electrical charge. When two conducting objects – one that is grounded and one that isn't – touch, the charge can equalise and cause a small shock, known as a microshock. While they are not harmful, they can be disturbing for the person or animal that suffers the shock.

For these reasons, metal-framed and metal-clad buildings which are close to existing overhead lines should be earthed to minimise the risk of microshocks. Anything that isn't earthed, is conductive and sits close to the lines is likely to pick up a charge. Items such as deer fences, metal palisade fencing, chain-link fences and metal gates underneath overhead lines all need to be earthed.

For further information on microshocks please visit www.emfs.info.



200m

The minimum distance that should be maintained from National Grid assets when quarry blasting

Specific development guidance

Wind farms

National Grid's policy towards wind farm development is closely connected to the *Electricity Networks Association Engineering Recommendation L44 Separation between Wind Turbines and Overhead Lines, Principles of Good Practice*. The advice is based on national guidelines and global research. It may be adjusted to suit specific local applications.

There are two main criteria in the document:

- (i) The turbine shall be far enough away to avoid the possibility of toppling onto the overhead line
- (ii) The turbine shall be far enough away to avoid damage to the overhead line from downward wake effects, also known as turbulence

The toppling distance is the minimum horizontal distance between the worst-case pivot point of the wind turbine and the conductors hanging in still air. It is the greater of:

- the tip height of the turbine plus 10%
- or, the tip height of the turbine plus the electrical safety distance that applies to the voltage of the overhead line.

To minimise the downward wake effect on an overhead line, the wind turbine should be three times the rotor distance away from the centre of the overhead line.

Wake effects can prematurely age conductors and fittings, significantly reducing the life of the asset. For that reason, careful consideration should be taken if a wind turbine needs to be sited within the above limits. Agreement from National Grid will be required.

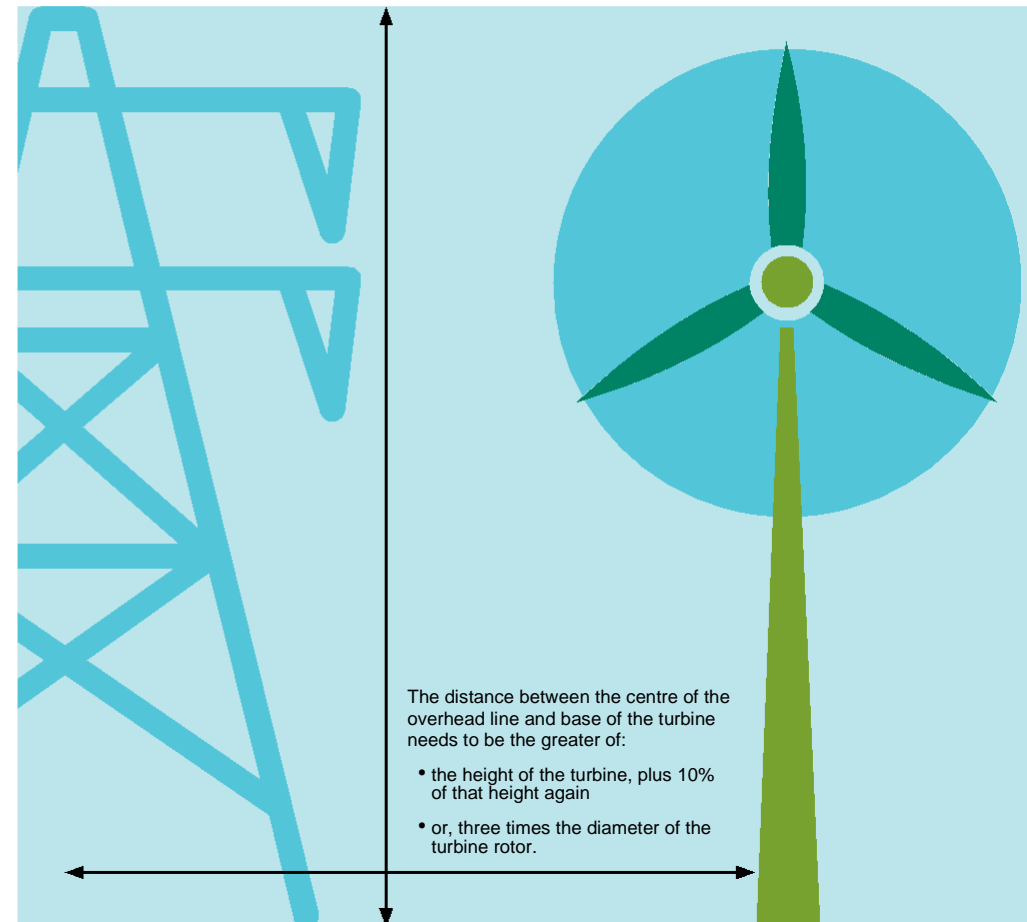
Commercial and housing developments

National Grid has developed a document called *Design guidelines for development near pylons and HVO power lines*, which gives advice to anyone involved in planning or designing large-scale developments that are crossed by, or close to, overhead lines.

The document focuses on existing 275kV and 400kV overhead lines on steel lattice towers, but can equally apply to 132kV and below. The document explains how to design large-scale developments close to high-voltage lines, while respecting clearances and the development's visual and environmental impact.

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Diagram not to scale



Turbines should be far enough away to avoid the possibility of toppling onto the overhead line



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The advice is intended for developers, designers, landowners, local authorities and communities, but is not limited to those organisations.

Overall, developers should be aware of all the hazards and issues relating to the electrical equipment that we have discussed when designing new housing.

As we explored earlier, National Grid's assets have the potential to create noise. This can be low frequency and tonal, which makes it quite noticeable. It is the responsibility of developers to take this into account during the design stage and find an appropriate solution.

Solar farms

While there is limited research and recommendations available, there are several key factors to consider when designing Solar Farms in the vicinity of Overhead Power Lines.

Developers may be looking to build on arable land close to National Grid's assets. In keeping with the safety clearance limits that we outlined earlier for solar panels directly underneath overhead line conductors, the highest point on the solar panels must be no more than 5.3m from the lowest conductors.

This means that the maximum height of any structure will need to be determined to make sure safety clearance limits aren't breached. This could be as low as 2m. National Grid will supply profile drawings to aid the planning of solar farms and determine the maximum height of panels and equipment.

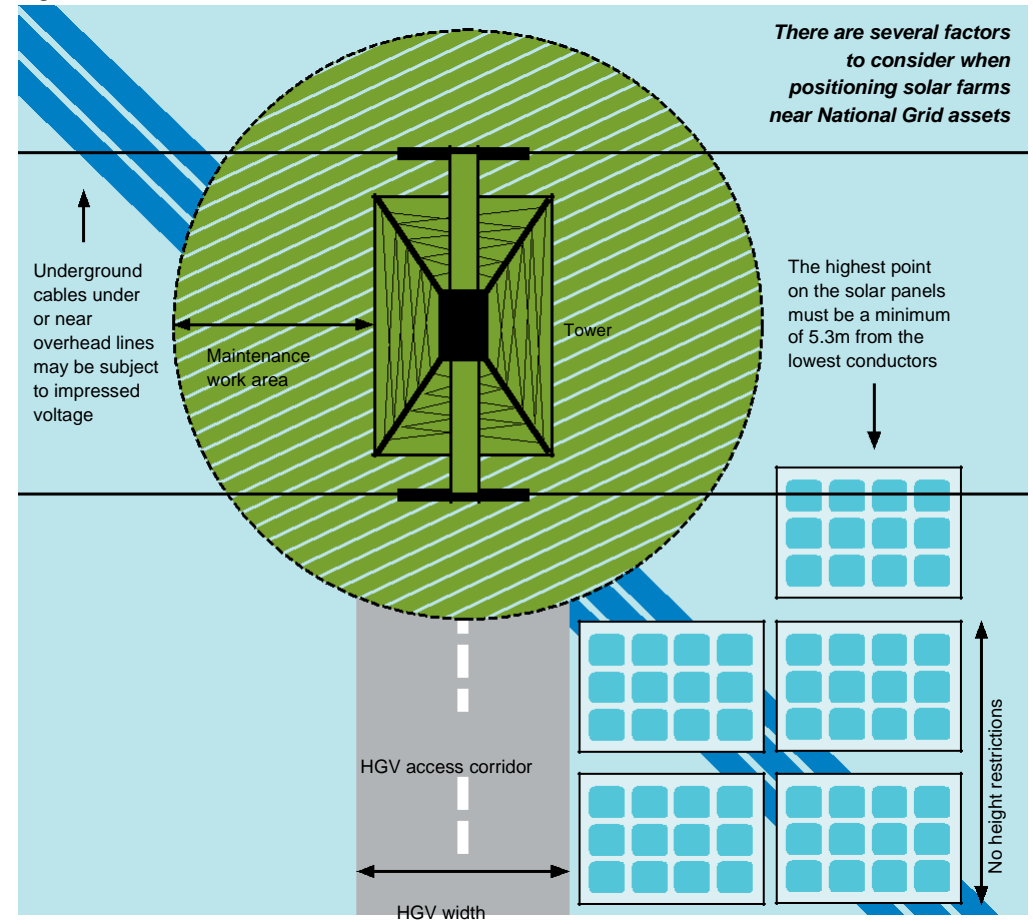
Solar panels that are directly underneath power lines risk being damaged on the rare occasion that a conductor or fitting falls to the ground. A more likely risk is ice falling from conductors or towers in winter and damaging solar panels.

There is also a risk of damage during adverse weather conditions, such as lightning storms, and system faults. As all our towers are earthed, a weather event such as lightning can cause a rise in the earth potential around the base of a tower. Solar panel support structures and supply cables should be adequately earthed and bonded together to minimise the effects of this temporary rise in earth potential.

Any metallic fencing that is located under an overhead line will pick up an electrical charge. For this reason, it will need to be adequately earthed to minimise microshocks to the public.

For normal, routine maintenance and in an emergency National Grid requires unrestricted access to its assets. So if a tower is enclosed in a solar farm compound, we will need full access for our vehicles,

Diagram not to scale



Including access through any compound gates. During maintenance – and especially re-conductoring – National Grid would need enough space near our towers for winches and cable drums. If enough space is not available, we would require solar panels to be temporarily removed.



Asset protection agreements

In some cases, where there is a risk that development will impact on National Grid's assets, we will insist on an asset protection agreement being put in place. The cost of this will be the responsibility of the developer or third party.

Contact details

Emergency situations

If you spot a potential hazard on or near an overhead electricity line, do not approach it, even at ground level. Keep as far away as possible and follow the six steps below:

- Warn anyone close by to evacuate the area
- Call our 24-hour electricity emergency number: 0800 404 090 (Option 1)¹
- Give your name and contact phone number
- Explain the nature of the issue or hazard
- Give as much information as possible so we can identify the location – i.e. the name of the town or village, numbers of nearby roads, postcode and (ONLY if it can be observed without putting you or others in danger) the tower number of an adjacent pylon
- Await further contact from a National Grid engineer

¹ It is critically important that you don't use this phone number for any other purpose. If you need to contact National Grid for another reason please use our Contact Centre at www2.nationalgrid.com/contact-us to find the appropriate information or call 0800 0014282.

Routine enquiries

Email:
assetprotection@nationalgrid.com

Call Asset Protection on:
0800 0014282

Opening hours:
Monday to Friday 08:00-16:00

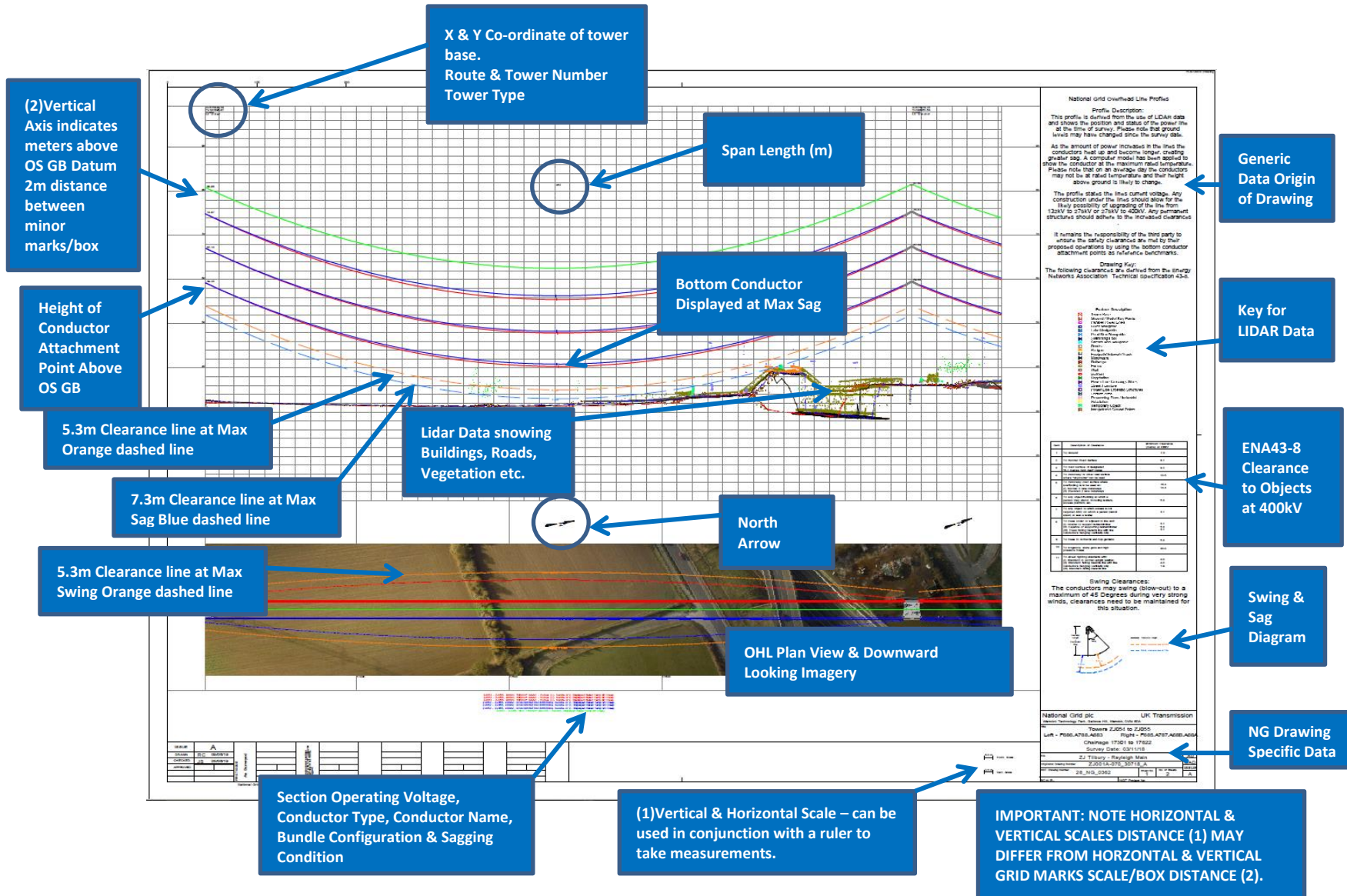
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14 APPENDIX A

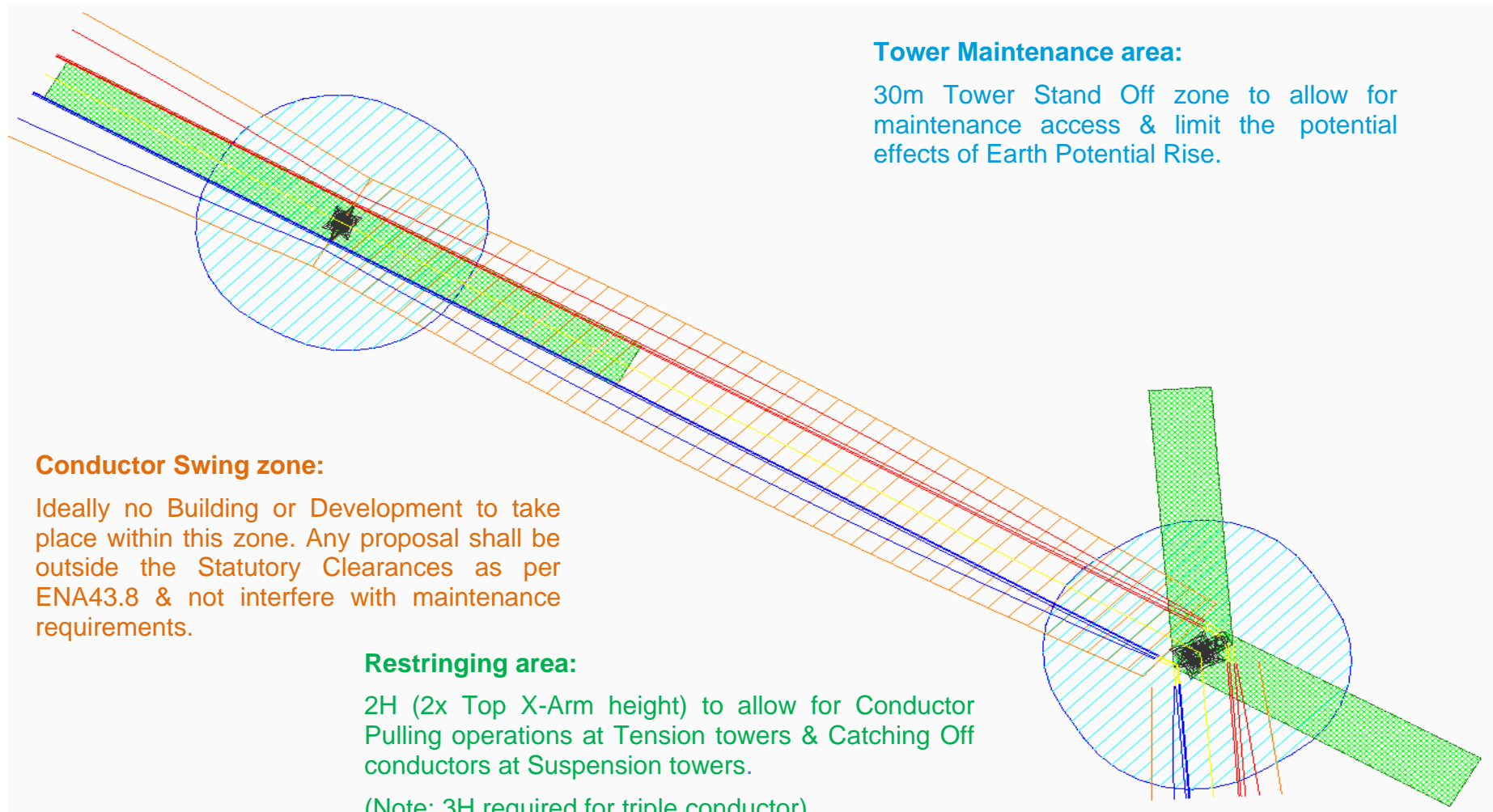


OHL Profile Drawing Guide





OHL Tower Stand Off & Reconducting Area





Our ref: NH/24/08002
Your ref: EN0110006

The Planning Inspectorate
Environmental Services
Operations Group 3
Temple Quay House
2 The Square
Bristol
BS1 6PN

Adam Johnson
National Highways
Piccadilly Gate
Store Street
Manchester
M1 2WD

Tel: 07917 426 500

15 October 2024

Dear Sir / Madam

Application by Mersey Tidal Power Project for an Order granting Development Consent for the Mersey Tidal Power Project – Environmental Statement Scoping Opinion

National Highways has been appointed by the Secretary of State for Transport as a strategic highway company under the provisions of the Infrastructure Act 2015. We are responsible for operating, maintaining and improving the Strategic Road Network (SRN) in England, in accordance with the Licence issued by the Secretary of State for Transport (April 2015) and Government policies and objectives.

Our response to this consultation on behalf of Mersey Tidal Power Project ('the Applicant') for the Mersey Tidal Power Project ('the Project') is written in the context of statutory responsibilities as set out in National Highways' Licence, and in the light of Government policy and regulation, including the:

- Town and Country Planning Development Management (Procedure) Order (England) 2015 (DMPO); and
- DfT Circular 01/2022 The Strategic Road Network and the delivery of sustainable development ('the Circular').

As a statutory consultee in the planning system, National Highways has a regulatory duty to co-operate. Consequently, we are obliged to give consideration to all proposals received and to provide appropriate, timely and substantive responses.

Our desire to be a proactive planning partner goes beyond this statutory role and follows the spirit of the Licence which stipulates that National Highways should: “Support local and national economic growth and regeneration”.

Cost Recovery

As you are likely aware, National Highways was granted new powers to recover costs incurred in responding to third party DCOs, effective from 1 April 2024. This is further to amendments to Section 54A of the Planning Act 2008 and regulation 12A of The Infrastructure Planning (Fees) Regulations 2010, brought in under the Levelling up and Regeneration Act 2023.

The regulations and supporting guidance are published on the [DLUHC website](#) and further information on how we will apply these powers can be found on the National Highways website at:

<https://nationalhighways.co.uk/our-roads/planning-and-the-strategic-road-network-in-england/>

We will contact the applicant in due course to discuss the scope of services and next steps, including an estimate and a date for when we intend to begin recovering costs for any work associated with the Mersey Tidal Power Project.

DfT Circular 01/2022 and Sustainable Development

The Circular, published December 2022, is national policy which sets out the framework for working with National Highways on the SRN that emphasises the need for developments to come forward in a sustainable manner. Paragraph 11 states:

The company [National Highways] will act in a manner which conforms to the principles of sustainable development. In this context, the company’s licence agreement defines sustainable development as encouraging economic growth while protecting the environment and improving safety and quality of life for current and future generations.

Paragraph 15 goes on to state a shift in policy from the traditional ‘predict and provide’ approach to transport planning, to planning for the outcomes that communities want to achieve in terms of sustainability and providing transport solutions for those outcomes.



With this in mind, National Highways seeks to encourage new developments that facilitate a reduction in the need to travel by private car and focussed on locations that are or can be made sustainable. In the first instance, new developments should give priority to walking, wheeling and cycle movements and facilitate access to high-quality public transport where possible.

Net-Zero Carbon Transition

The Climate Change Committee's [2022 Report to Parliament](#) notes that for the UK to achieve net zero carbon status by 2050, action is needed to support a modal shift away from car travel. The National Planning Policy Framework supports this position, with paragraphs 73 and 105 prescribing that significant development should offer a genuine choice of transport modes, while paragraphs 104 and 110 advise that appropriate opportunities to promote walking, cycling and public transport should be taken up.

Moreover, the build clever and build efficiently criteria as set out in clause 6.1.4 of [PAS2080](#) promote the use of low carbon materials and products, innovative design solutions and construction methods to minimise resource consumption.

These considerations should be taken into account during the Project's planning phase, in particular relating to the movement of materials and staff during construction.

Strategic Road Network

There are several SRN links and junctions within the area of scope for this development, with others currently outside that may need to be considered. These routes are:

- M53 motorway
- M56 motorway
- M57 motorway
- M58 motorway
- A5036 trunk road
- A550/A55 trunk roads

The likely impact to these routes during the construction phase of the development will be determined by both the expected trip generation and traffic distribution from the delivery of materials and the movement of staff to and from the site.

Scope of National Highways' Review

The five documents available for review during this consultation are as follows:

- EIA Scoping Report: Volume 1 Chapters
- EIA Scoping Report: Volume 2a Figures Chapters 1-8
- EIA Scoping Report: Volume 2b Figures Chapters 9-13
- EIA Scoping Report: Volume 2c Figures Chapters 16-27
- EIA Scoping Report: Volume 3 Appendices

As much of this relates to matters outside National Highways' remit, we have not looked to comment on every aspect of the development, focussing on where there is likely to be an impact to the SRN.

The next section of this response will go into some detail regarding relevant parts of the EIA Scoping Report.

Grid Connections

Whilst the Project will be constructed at some distance from the SRN and therefore be unlikely to have much of an impact once operational, there are grid connection points at four existing substations, with currently undefined routes. Three of these four substations are in close proximity to the SRN (M53/A55) and it is unclear whether the connections to these sites may cross or impact our network

National Highways expects suitably qualified professionals, with an awareness of the Design Manual for Roads and Bridges (DMRB), to consider any geotechnical interfaces and the certification procedure captured in CD 622, 'Managing Geotechnical Risk'. The key objective of CD 622 is to identify the geotechnical risks and manage those risks correctly.

Key Point: National Highways would wish to be consulted upon the grid connection routes and notified if any of these routes planned to cross or impact the SRN.

Chapter 24 Terrestrial Traffic and Transport

Study Area

It is noted that the Applicant has committed to transport the majority of components and materials associated with the tidal barrage to the marine working area by marine methods. There will, however, be a requirements for an element of works to be undertaken onshore, along with a need for construction workers to travel to the marine working area and to the grid connection route.

A number of existing marine and port facilities are currently being considered to provide temporary laydowns and compounds to support construction activities. However, as the potential off-site locations are spread over a relatively large area, it is not possible to fully define the study area or baseline conditions at this time. It is noted that the study area for the traffic and transport assessment will be identified and agreed in consultation with stakeholders following refinement of site options.

Key Point: National Highways would wish to be consulted upon the scope of the study area for the traffic and transport assessment. It is noted that potential port locations on both side of the River Mersey have been identified, therefore it is anticipated that the study area may need to include (but not be limited to) the strategic routes outlined in the Strategic Road Network section above.

Assessment Methodology

Section 24.5 states that potential effects of the Project will be reviewed in accordance with the Institute of Environmental Management and Assessment (IEMA) Guidelines for the Environmental Assessment of Traffic and Movement which confirms that an assessment should be undertaken in accordance with the following two rules:

- Rule 1: On road links where traffic flows are predicted to increase by more than 30% (or where the number of HGVs is predicted to increase by more than 30%); and
- Rule 2: On road links of high sensitivity where traffic flows have increased by 10% or more.

Key Point: Whilst the suggested methodology follows a standard approach in line with IEMA guidelines, National Highways would require a broader assessment of the impact at relevant SRN junctions as part of a Transport Assessment. National Highways does not consider a percentage increase in terms of traffic numbers to be a sufficient measure when determining impacts, particularly where links and junctions may already be near or at capacity. The transport evidence would need

to consider the full impact of construction traffic on those parts of the SRN where vehicles are likely to be routed.

Baseline Conditions

Section 24.6 notes key sources of data for assessment of baseline conditions are DfT traffic counts website and Crashmap. It notes that The Applicant is seeking to prioritise the use of shipping to bring in materials, including potential to transport materials to the area via the Garston Docks Freightliner Terminal.

However, the M53, A41 and A59 have been identified to be a potential haul route for HGVs where required. The EIA Scoping considers this to be of a standard able to accommodate construction traffic, and where necessary, it is proposed to utilise this as far as possible to minimise the impact on the local road network.

Key Point: National Highways wishes to be consulted upon the derivation of baseline and future baseline traffic conditions, including the agreement of relevant developments and infrastructure projects within the agreed study area, committed development trips and background growth factors. It would also be useful to understand at an early stage whether there is an intention to move abnormal loads on the SRN, or if these are all likely to be delivered to the site using marine methods.

Basis for Scoping Assessment

Section 24.8 notes the scoping of traffic and transport assessment will be based on the following assumptions:

- The majority of components and materials associated with the tidal barrage, will be transported to the marine working area by marine methods.
- It is assumed that there will be no requirement to provide onsite worker accommodation, with all employees associated with the tidal barrage's construction assumed to access the Project on a daily basis.
- It is assumed that the assessment will focus on road network between the SRN and the construction sites supporting installation of the tidal barrage and grid connection.

Key Point: In regard to the third bullet point above, National Highways considered the scope of the assessment must include all relevant routes on the SRN in addition to the local highway network.

Section 24.9 and Table 24-4 describe the embedded mitigation measures relevant to traffic and transport:

- Transportation of the majority of components and materials associated with the tidal barrage to the marine working area by marine methods.
- Implementation of a Construction Traffic Management Plan (CTMP) to minimise the impact of construction traffic associated with the tidal barrage and grid connection on sensitive receptors as far as possible.
- Avoid the use of heavy haul roads through the residential areas on the left bank.
- Provision of limited parking for workers within the construction sites to encourage the use of public transport, with this approach supported through the promotion of a comprehensive Travel Plan identifying the services available when accessing the construction sites.
- Consideration of the provision of park and ride facilities with associated shuttle bus services, to support workers accessing the area from further afield to do so sustainably.
- Consideration of the provision of water-based shuttle services to support worker access from key collection areas to the marine working areas.

Key Point: National Highways wishes to be consulted upon and agree the contents of the Construction Traffic Management Plan and Travel Plan.

Likely Significant Effects

Section 24.10 and Table 24-5 describe the anticipated traffic and transport significant effects, based on professional judgement. These are essentially the effects of the additional HGV and worker vehicle trips on the local highway network.

Sections 24.10.4-6 include a commentary on impacts to be scoped out of the assessment. Essentially this relates to effects outside of the agreed study area (yet to be defined and agreed), and effects during the operational and decommissioning phases.

Key Point: The reference in Table 24-5 to effects on the local highway network should be amended to also include reference to effects on the SRN.

Chapters 15, 16, 21 and 22 (Major Accidents and Disasters, Shipping and Navigation, Air Quality, Onshore Noise and Vibration)

Figure 16.1 shows the shipping and navigation study area. This is consistent with the Scoping Boundary shown on Figure 1.1 in respect of the terrestrial areas. It is noted the study area includes the Port of Liverpool ('the Port'), a major dock system stretching 7.5

miles on the east side of the River Mersey and includes Birkenhead Docks on the west side of the river. This is the third busiest port in the UK for commercial freight and also serves frequent passenger and ferry vessel movements, cargo and tanker vessels, tugs, pilot and service vessels and recreational boat clubs.

There is an acknowledgement that the Project may impact on the normal operation of the various Port operations, and it is stated in Table 16-8 that scheduling of construction activities will be timed to avoid conflict with key Port activities such as ferry timetables, as part of the embedded mitigation.

The study area for the air quality assessment is shown on Figure 21.1 and extends 2km beyond the barrage scoping boundary. It encompasses part of the AQMA boundary. In addition to the M53 and A55, it also includes sections of the A5036, M62 and M56.

It is noted that Cheshire West and Chester Council, Liverpool City Council and Sefton Borough Council were consulted, however National Highways was not. Sefton Borough Council requested that the A5036 be considered in the assessment. Paragraph 21.6.12 notes that air quality in the study area is heavily influenced by the movements of HGVs to and from the Port of Liverpool.

The study area for the onshore noise and vibration assessment has not yet been identified or agreed. It is suggested this will be based upon professional judgement once construction and operational traffic data becomes available. Again, it is noted that the Local Highway Authorities have been consulted but no mention is made of National Highways.

As noted in Table 15-6, traffic accidents have been scoped out of the major accidents and disasters assessment. It is stated that significant transport accidents occur across the UK on a daily basis, mainly on roads, and involving private and / or commercial vehicles. During construction there will be an increase in heavy construction plant and equipment on local road network which may increase the risk of accidents. However, the majority of components and materials associated with the tidal barrage and grid connection construction will be transported by marine methods and a Construction Traffic Management Plan will be implemented.

Key Point: As noted previously, National Highways would wish to be consulted upon the study area for the assessment of traffic and transport effects and suggest this may need to be extended to include the M53, A550/A55, M56, M57, M58 and A5036.

Any future baseline assessment should take into account the expected changes in vehicular traffic associated with relevant developments including the ongoing redevelopment of the Port of Liverpool.

In addition to the assessment of accidents and safety on any links which exceed either of the IEMA thresholds, National Highways would require the Transport Assessment to give consideration of accidents on all elements of the strategic road network within the agreed study area, including at junctions.

Travel Planning

National Highways is supportive of developments that aim to focus on sustainable travel ahead of private vehicle use. Importantly for National Highways, the vision-led approach to planning, as outlined in the Circular, requires that applicants consider this sustainability at the earliest stages. This vision would then form part of both the Transport Assessment and the Travel Plan.

Paragraph 33 of National Highways' Planning for the Future guide states:

33. In broad terms, a vision-led approach can be summarised as follows:

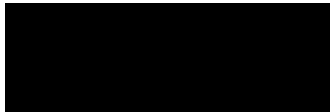
- 1. Establish a vision - understand the relevant national and local policy context; identify the drivers of change/key external factors acting on the plan or proposed development; set-out a place-based vision statement with associated outcomes that supports the principles of sustainable development.*
- 2. Develop scenarios - develop plausible future scenarios that help to understand the uncertainties that may impact on the ability to deliver the vision.*
- 3. Generate options – generate, sift and prioritise options that can help achieve the vision.*
- 4. Test options – test how the prioritised options perform in each of the plausible future scenarios (for example, is every option effective in all scenarios or are some less resilient and have some significant risks?).*
- 5. Produce a vision strategy – produce a strategy for realising the vision that accounts for the identified uncertainty and includes a 'monitor and manage' approach to identify and address when the vision is unlikely to be achieved.*

Future Engagement

We welcome further engagement with the Applicant as they progress with their application for a Development Consent Order. This is to assure National Highways that the Strategic Road network will continue to operate in a safety and reliable manner both during and after the construction of these works.

In the meantime, if you or the Applicant would like to discuss anything further, please let me know at the email address below, or via our Planning inbox at PlanningNW@nationalhighways.co.uk.

Yours faithfully



Adam Johnson

National Highways Spatial Planner for Cheshire, Merseyside and Greater Manchester

Email: @nationalhighways.co.uk

Date: 16 October 2024
Our ref: 488513
Your ref: EN0110006 EIA Scoping for the Mersey Tidal Power Project



Claire Deery
The Planning Inspectorate
Yr Arolygiaeth Gynlluinio
Environmental Services
Operations Group 3
Temple Quay House
2 The Square
Bristol
BS1 6PN

Natural England
Hornbeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 6GJ

T 0300 060 3900

BY EMAIL ONLY

Dear Ms Deery,

Environmental Impact Assessment Scoping consultation under Regulations 10 and 11 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

Proposal: Mersey Tidal Power Project

Location: River Mersey, Merseyside

Thank you for seeking our advice on the scope of the Environmental Statement (ES) in your consultation dated and received by Natural England on 19 September 2024.

Natural England (NE) is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

NE is the Statutory Nature Conservation Body (SNCB) within English territorial waters (0-12 nautical miles). We note that JNCC, Natural Resources Wales (NRW) and the Environment Agency (EA) have been consulted for matters pertaining to their remit. We have liaised with JNCC, NRW and the EA on comments relating to their remit and can confirm that we are in broad agreement on the comments raised across the SNCBs.

NE has engaged through early engagement opportunities with the Applicant and provided advice across multiple topics. We anticipate this to be considered when producing the PEIR and ES. We welcome further engagement with the Applicant particularly around the scope of modelling and survey work.

Summary of Main Points

1. Approach to EIA Scoping

NE notes that the project has adopted a similar approach to EIA scoping as other Nationally Significant Infrastructure Projects (NSIPs) by consulting on a large scoping boundary. The rationale for the inclusion of these large boundaries is due to substantial components of the project remaining undetermined at the point of scoping, as well as incomplete data collection and survey detail. Thereby, the EIA scoping report is extremely high level.

This makes it difficult to provide targeted advice on the scope of the EIA at this stage, and given the EIA scoping opinion from PINS is binding as regards to the scope of the ES, this risks creating

difficulties with identifying and resolving consenting issues further down the line.

We highlight that because we are unable to confirm with a high level of confidence that the data collection proposed is sufficient to inform the ES/areas of search, we are also unable to advise in detail on the potential scale and level of risk this project may pose to nature conservation receptors. Without having this understanding, it is unclear to NE how this project will now progress towards submission and ensure that there is sufficient time in the pre-application phase to identify and address all of the potential environmental concerns.

There is a risk with premature EIA scoping, and submission of the Preliminary Environmental Information Report (PEIR) prior to the completion of the data collection and analysis, that consenting issues are identified late in the day and are not resolved in advance through pre-application discussions or data collection, and that Examinations are then unable to resolve these issues. This runs counter to the increased emphasis on 'front-loading' issues in the NSIP process, and the ambition of the British Energy Security Strategy as regards to speeding up the consenting process.

We note that not all survey methods have been established within the EIA Scoping Report, this presents a risk that full data and analysis will not be presented in the ES. NE highlights the risk that any additional data analysis could have potential to change the conclusions of the ES from those set out in the PEIR, which could cause delays to the project. More generally, Natural England advises that 24 months of survey effort is the minimum expected evidence standard for bird and marine mammal data.

We advise that cross referencing sections where necessary is undertaken to ensure a robust whole project assessment with clear links between impacts across sections. For example, physical processes and terrestrial ecology sections when considering coastal process interactions on dune habitats.

2. Impacts to designated sites

The project's preferred location is likely to result in an overlap with several designated sites (as highlighted within Annex 1 section 2.2 and 2.3). The direct and indirect effects of the development on these sites should be fully assessed through the relevant environmental assessments e.g. Habitats Regulations Assessment. If adverse effects on site integrity are found to have lasting impacts, then without prejudice compensation is likely to be required. Please see Annex 1 (section 2.3) for more information on the Habitats Regulations¹.

As a general comment, the list of designated sites discussed in the various chapters varies depending on the distance of the study area being used. It is also not always clear as to the rationale for including one site or another. There needs to be a better description of all the designated sites especially those within the scoping boundary, with a much clearer approach in identifying features of interest. The Applicant should ensure to check that features and references made to the designated sites are identified and listed correctly within the ES. Information on the designated sites can be accessed from NE's designated sites system: [Site Search \(naturalengland.org.uk\)](https://www.naturalengland.org.uk).

At this stage, we advise that there is not enough information to screen out any SSSI/ SAC/ SPA/MCZ designated sites within or adjacent to the scoping boundary, due to uncertainty around the extent of direct and indirect impacts. Therefore, we advise that all sites as identified within Annex 1 should be screened in for further assessment within the ES.

3. Best Practice Advice for Evidence and Data Standards

As tidal range power is an emerging industry within English waters, NE is drawing on its Best

¹ The Conservation of Habitats and Species Regulations 2017 (as amended)

Practice Guidance for Offshore Wind developments to help inform the data and evidence requirements at each stage of this project. We encourage the Applicant to utilise the recommendations in the Best Practice Advice to support development of the ES.

The advice documents are currently stored on a SharePoint Online site, access to the SharePoint site needs to be requested from neoffshorewindstrategicsolutions@naturalengland.org.uk. Please allow up to three working days for requests to access the site to be granted. NE is currently reviewing ways of making the advice more accessible and open access.

4. Coastal Processes

NE have provided detailed comments on this topic in Annex 3.2.

It is vital that the marine and coastal physical processes within, and in the vicinity of, the proposed development are well understood to provide robust estimates of the temporal and spatial scale of changes to hydrodynamic and sediment transport regimes, and to the subtidal, intertidal and supratidal environments. This should describe both contemporary conditions as well as longer-term historical change.

The main pathway of impact between the tidal barrage and benthic and intertidal habitats will be changes to the hydrodynamic regime and movement of water and sediment through the estuary. For example, the following main hydrodynamic responses have been observed at La Rance, Annapolis Royal and the Eastern Scheldt:

- reduction in tidal range with loss of intertidal habitat area
- reduction in water speed, resulting in reduced suspended sediment

The ES will need to fully explore the interactions between changes in physical processes and the level and importance of the change in biological processes.

The Mersey Estuary is a dynamic and complex system, predicting the impact of the construction and operation of a project at the scale of the barrage will come with uncertainties. A detailed construction and operation monitoring plan will be needed to support model predictions and be aligned with an adaptive mitigation plan.

5. Terrestrial Ecology

The detailed comments in Annex 3.3 focus specifically on the information provided regarding coastal habitats and those protected sites supporting these habitat types within the study area. Much of this relates to potential impacts on coastal saltmarsh and sand dunes which are present within and/or immediately adjacent to the scoping boundary but note that limited areas of shingle and maritime cliff and slope are also within the study area.

There is separation of designated sites depending on the habitat types in the benthic and terrestrial chapters of the scoping report. If this is continued through the development of the ES, then this may risk overlooking interactions between habitats especially in dynamic coastal environments. For example, around the mouth of Mersey Estuary (part of the Dee Estuary SAC) and North Wirral Foreshore SSSI where there has been recent change in terms of vegetation establishment with both saltmarsh and sand dune developing.

6. Benthic Subtidal and Intertidal Ecology

Detailed comments for this topic have been provided in Annex 3.4.

Generally, not enough detail has been provided for NE to provide detailed comments. This also means that impacts have been scoped out without enough information to justify this, at the stage that the project is currently at. Further discussion is also needed regarding intertidal survey objectives and characterisation.

Consideration of designated sites with benthic and intertidal habitats should also include SPAs, which have these habitats designated as supporting habitats for the bird features.

7. Marine Mammals

Detailed comments for this topic have been provided in Annex 3.5.

NE recommends that acoustic monitoring is added back into the survey design to collect important data on species that can be missed during the visual vantage point surveys. In addition to this, we advise that further vantage points should be added to the surveys.

The list of designated sites with potential connectivity should be reviewed and updated. If there is any possibility of a requirement for UXO clearance, this should be scoped in.

The Applicant should provide information on how collisions will be detected for marine mammals. We strongly support the inclusion of mitigation measures for barrier effects and collision risk within the Marine Mammal Mitigation Protocol (MMMP).

8. Fish and Shellfish

Detailed comments for this topic have been provided in Annex 3.6.

NE advises that the effects listed for some impact pathways for fish need to be expanded upon on. In addition to this, it may help to split barriers to migration into physical/ permanent barriers and non-physical/ temporary barriers to migration.

NE notes overlap with the study area boundary and high presence of nursery grounds for commercial species such as sandeel and herring. These species are important sources of food for bird features designated within the Liverpool Bay SPA. We would welcome further collaborative input towards survey methods and plans for fish and shellfish.

9. Intertidal and Onshore Ornithology

Detailed comments for this topic have been provided in Annex 3.7.

In the absence of informative data, that informs usage of designated sites, a precautionary approach should be followed for the worst-case scenario. Functional Linked Land (FLL) that is within 2 km of the development should be covered in future survey work. This should further extend across the grid connection route.

10. Offshore Ornithology

Detailed comments for this topic have been provided in Annex 3.8.

NE notes the location of the proposed development in relation to Liverpool Bay SPA. Red throated diver and common scoter are features of Liverpool Bay SPA and both species are sensitive to anthropogenic disturbance and displacement. We advise that best practice protocols should be followed and scoped into consideration with project design to reduce vessel disturbance to these species. In addition, we advise appropriate consideration of timings of activities that take place within Liverpool Bay SPA to avoid sensitive seasonal periods for the birds.

11. Invasive Non-Native Species

NE no longer considers *Spartina anglica* (Common Cord-grass) as a non-native invasive species this follows the reclassification by The Atlas of the British & Irish Flora (Preston et al 2002) as a native species. Further details are given in

<https://publications.naturalengland.org.uk/publication/5109184527859712>.

Spartina's distribution around the English coast is shown in the [online Plant Atlas 2020 database](#). Within saltmarsh and protected sites unless its cover expands greatly (*i.e.* more than 10% expansion of pioneer marsh from mudflat over the last 10 years – when it is considered as a negative indicator) its presence is not seen as an issue. *Spartina anglica* (Common Cord-grass) plays an important role in sediment trapping, and in many sites its presence leads to the development of a diverse mixed saltmarsh.

NE have produced a black-list of current and possible future invasive plants that are of concern to coastal habitats. This can be made available on request. NE advise that marine INNS should also be considered.

In summary, a robust assessment of environmental impacts and opportunities, based on relevant and up to date environmental information should be undertaken prior to an application for a Development Consent Order. We have provided guidance on EIA requirements in Annex 1 and specific comments to sections of the Mersey Tidal Power Scoping Report in Annex 2 of this letter:

Should the proposal be amended in a way which significantly affects its impact on the natural environment then, in accordance with Section 4 of the Natural Environment and Rural Communities Act 2006, NE should be consulted again.

Please send any new consultations or further information on this consultation to consultations@naturalengland.org.uk.

Yours sincerely,

Elliott Waltho
Higher Officer - Marine (Cheshire to Lancashire Area Team)
E-mail: [REDACTED] [\[REDACTED\]@naturalengland.org.uk](mailto:[REDACTED]@naturalengland.org.uk)

Annex 1 – Natural England Advice Related to EIA Scoping Requirements

1. General Principles

Regulation 11 of the Infrastructure Planning Regulations 2017 - (The EIA Regulations) sets out the information that should be included in an ES to assess impacts on the natural environment. This includes:

- A description of the development – including physical characteristics and the full land use requirements of the site during construction and operational phases
- Appropriately scaled and referenced plans which clearly show the information and features associated with the development
- An assessment of alternatives and clear reasoning as to why the preferred option has been chosen
- A description of the aspects and matters requested to be scoped out of further assessment with adequate justification provided.
- Expected residues and emissions (water, air and soil pollution, noise, vibration, light, heat, radiation etc.) resulting from the operation of the proposed development
- A description of the aspects of the environment likely to be significantly affected by the development including biodiversity (for example fauna and flora), land, including land take, soil, water, air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), cultural heritage and landscape and the interrelationship between the above factors
- A description of the likely significant effects of the development on the environment – this should cover direct effects but also any indirect, secondary, cumulative, short, medium, and long term, permanent and temporary, positive, and negative effects. Effects should relate to the existence of the development, the use of natural resources (in particular land, soil, water and biodiversity) and the emissions from pollutants. This should also include a description of the forecasting methods to predict the likely effects on the environment
- A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment
- An outline of the structure of the proposed ES

1.2 Environmental Data

NE is required to make available information it holds where requested to do so.

National datasets held by NE are available at

<http://www.naturalengland.org.uk/publications/data/default.aspx>.

Detailed information on the natural environment is available at www.magic.gov.uk. This includes Marine Conservation Zone GIS shapefiles.

NE's Site of Special Scientific Interest (SSSI) Impact Risk Zones are a GIS dataset which can be used to help identify the potential for the development to impact on a SSSI. The dataset and user guidance can be accessed from the [Natural England Open Data Geportal](#).

NE does not hold local information on local sites, local landscape character, priority habitats and species or protected species. Local environmental data should be obtained from the appropriate local bodies. This may include the local environmental records centre, the local wildlife trust, local geo-conservation group or other recording society.

2. Biodiversity and Geology

2.1 Ecological Aspects of an Environmental Statement

NE advises that the potential impact of the proposal upon features of nature conservation interest and opportunities for habitat creation/enhancement should be included within this assessment in accordance with appropriate guidance on such matters. [Guidelines](#) and an [EclA checklist](#) have been developed by the Chartered Institute of Ecology and Environmental Management (CIEEM).

EclA is the process of identifying, quantifying and evaluating the potential impacts of defined actions

on ecosystems or their components. EclA may be carried out as part of the EIA process or to support other forms of environmental assessment or appraisal.

2.2 Internationally Designated Sites

The ES should thoroughly assess the potential for the proposal to affect designated sites. Internationally designated sites (e.g. designated Special Areas of Conservation (SAC) and Special Protection Areas (SPA)) fall within the scope of the Conservation of Habitats and Species Regulations 2017 (as amended). In addition paragraph 176 of the National Planning Policy Framework requires that potential Special Protection Areas, possible Special Areas of Conservation, listed or proposed Ramsar sites, and any site identified as being necessary to compensate for adverse impacts on classified, potential or possible SPAs, SACs and Ramsar sites be treated in the same way as classified sites.

Under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) an appropriate assessment needs to be undertaken in respect of any plan or project which is (a) likely to have a significant effect on a European site (either alone or in combination with other plans or projects) and (b) not directly connected with or necessary to the management of the site.

NE's Impact Risk Zones incorporate internationally designated sites and features and can be used to help identify the potential for the development to impact on a European Site. The dataset and user guidance can be accessed from the NE Open Data Geoportal.

Further information on the special interest features, their conservation objectives, and any relevant conservation advice packages for designated sites is available on our website <https://designatedsites.naturalengland.org.uk/>. European site conservation objectives are available at <http://publications.naturalengland.org.uk/category/6490068894089216>.

The ES should include a full assessment of the direct and indirect effects of the development on the features of special interest within these sites and should identify such mitigation measures as may be required to avoid, minimise or reduce any adverse significant effects.

The red line boundary is within/ adjacent to the following internationally designated nature conservation sites:

- Liverpool Bay / Bae Lerpwl SPA
- Mersey Narrows and North Wirral Foreshore SPA
- Mersey Narrows and North Wirral Ramsar
- Mersey Estuary SPA
- Mersey Estuary Ramsar
- Ribble and Alt Estuaries SPA
- Ribble and Alt Estuaries Ramsar
- Sefton Coast SAC
- The Dee Estuary SPA
- The Dee Estuary Ramsar
- Dee Estuary SAC

We note that the current red line boundary and study area are broad. Therefore, NE reserves the right to comment on additional designated sites to those listed above as the project progresses and the red line boundary and study area are refined.

<http://publications.naturalengland.org.uk/category/6490068894089216>

Further information on the special interest features, the conservation objectives, and relevant conservation advice packages for designated sites is available on our website <https://designatedsites.naturalengland.org.uk/>

2.3 Habitats Regulations Assessment

If the proposal outlined within the scoping document has the potential to significantly affect features of the internationally designated sites and the activity is not directly connected to the management

of any designated site it should be assessed under regulation 63 the Conservation of Species and Habitats Regulations (2017). This is in addition to consideration of impacts through the EIA process.

If during the EIA process the potential for a Likely Significant Effect on the conservation objectives of the sites cannot be ruled out the competent authority for the marine licence (MMO / Government Department) should undertake an Appropriate Assessment of the implications for the site in view of its conservation objectives. Noting recent case law (People Over Wind²) measures intended to avoid and/or reduce the likely harmful effects on a European Site cannot be taken into account when determining whether or not a plan or project is likely to have a significant effect on a site, therefore consideration is required at Appropriate Assessment. NE should be formally consulted on any Appropriate Assessment provided for the proposal (Regulation 63).

2.4 Nationally Designated Sites, inc. Sites of Special Scientific Interest (SSSI) and Marine Conservation Zones (MCZ's)

The red line boundary is within/ adjacent to the following nationally designated nature conservation sites:

- Mersey Narrows SSSI
- Mersey Estuary SSSI
- North Wirral Foreshore SSSI
- New Ferry SSSI
- Sefton Coast SSSI
- Dee Estuary SSSI
- Dibbinsdale SSSI
- Meols Meadow SSSI
- Thurstaston Common SSSI
- The Dungeon SSSI
- Heswall Dales SSSI
- Additional sites that should be scoped in for indirect impacts include:
 - Ribble SSSI
 - Fylde MCZ
 - Ribble MCZ

We note that the current red line boundary and study area are broad. Therefore, NE reserves the right to comment on additional designated sites to those listed above as the project progresses and the red line boundary and study area are refined.

Sites of Special Scientific Interest (SSSIs)- Further information on the location of SSSIs and their special interest features can be found at www.magic.gov.uk. The ES should include a full assessment of the direct and indirect effects of the development on the features of special interest within these sites and should identify such mitigation measures as may be required in order to avoid, minimise or reduce any adverse significant effects.

Marine Conservation Zones - Marine Conservation Zones are areas that protect a range of nationally important, rare or threatened habitats and species. You can see where MCZs are located and their special interest features on www.magic.gov.uk. Factsheets that establish the purpose of designation and conservation objectives for each of the MCZ's are available at <https://www.gov.uk/government/collections/marine-conservation-zone-designations-in-england>

The ES should consider including information on the impacts of this development on MCZ interest features, to inform the assessment of impacts on habitats and species of principle importance for this location. Further information on MCZs is available via the following link: <http://publications.naturalengland.org.uk/category/1723382>

2.5 Regionally and Locally Important Sites

The EIA will need to consider any impacts upon local wildlife and geological sites. Local Sites are

² People Over Wind and Sweetman vs Coillte Teoranta (ref: C 323/17).

identified by the local wildlife trust, geoconservation group or a local forum established for the purposes of identifying and selecting local sites. They are of county importance for wildlife or geodiversity. The ES should therefore include an assessment of the likely impacts on the wildlife and geodiversity interests of such sites. The assessment should include proposals for mitigation of any impacts and if appropriate, compensation measures. Contact the local wildlife trust, geoconservation group or local sites body in this area for further information.

2.6 Protected Species - Species protected by the Wildlife and Countryside Act 1981 (as amended) and by the Conservation of Habitats and Species Regulations 2017 (as amended)

The ES should assess the impact of all phases of the proposal on protected species (including, for example, pinnipeds (seals), cetaceans (including dolphins, porpoises whales), fish (including seahorses, sharks and skates), marine turtles, birds, marine invertebrates, bats, etc.). Information on the relevant legislation protecting these species can be reviewed on the following link <https://www.gov.uk/government/publications/protected-marine-species>.

NE does not hold comprehensive information regarding the locations of species protected by law, but advises on the procedures and legislation relevant to such species. Records of protected species should be sought from appropriate local biological record centres, nature conservation organisations, [NBN Atlas](#), groups and individuals; and consideration should be given to the wider context of the site for example in terms of habitat linkages and protected species populations in the wider area, to assist in the impact assessment.

The conservation of species protected by law is explained in Part IV and Annex A of Government Circular 06/2005 *Biodiversity and Geological Conservation: Statutory Obligations and their Impact within the Planning System*. The area likely to be affected by the proposal should be thoroughly surveyed by competent ecologists at appropriate times of year for relevant species and the survey results, impact assessments and appropriate accompanying mitigation strategies included as part of the ES.

To provide this information, there may be a requirement for a survey at a particular time of year. Surveys should always be carried out in optimal survey time periods and to current guidance by suitably qualified and where necessary, licensed, consultants. For Land Based Impacts, NE has adopted [standing advice](#) for protected species which includes links to guidance on survey and mitigation.

Applicants should check to see if a mitigation licence is required using NE guidance on licensing NE wildlife licences. Applicants can also make use of NE's charged service Pre-Submission Screening Service for a review of a draft wildlife licence application.

NE then reviews a full draft licence application to issue a Letter of No Impediment (LONI) which explains that based on the information reviewed to date, that it sees no impediment to a licence being granted in the future should the DCO be issued.

Where strategic approaches such as DLL for great crested newt (GCN) are used, a Letter of No Impediment (LONI) will not be required. Instead, the developer will need to provide evidence to the Examining Authority (ExA) on how and where this approach has been used in relation to the proposal, which must include a counter-signed Impact Assessment and Conservation Payment Certificate (IACPC) from NE, or a similar approval from an alternative DLL provider.

The DLL approach is underpinned by a strategic area assessment which includes the identification of risk zones, strategic opportunity area maps and a mechanism to ensure adequate compensation is provided regardless of the level of impact. In addition, NE (or an alternative DLL provider) will undertake an impact assessment, the outcome of which will be documented in the IACPC (or equivalent).

If no GCN surveys have been undertaken, NE's risk zone modelling may be relied upon. During the impact assessment, NE will inform the Applicant whether their scheme is within one of the amber risk zones and therefore whether the Proposed Development is likely to have a significant effect on

GCN.

The IACPC will also provide additional detail including information on the Proposed Development's impact on GCN and the appropriate compensation required.

By demonstrating that the DLL scheme for GCN will be used, consideration of GCN in the ES can be restricted to cross-referring to the NE (or alternative provider) IACPC as a justification as to why significant effects on GCN populations as a result of the Proposed Development would be avoided.

2.7 Habitats and Species of Principal Importance

The ES should thoroughly assess the impact of the proposals on habitats and/or species listed as 'Habitats and Species of Principal Importance' within the England Biodiversity List, published under the requirements of S41 of the Natural Environment and Rural Communities (NERC) Act 2006. Section 40 of the NERC Act 2006 places a general duty on all public authorities, including local planning authorities, to conserve and enhance biodiversity. Further information on this duty is available here <https://www.gov.uk/guidance/biodiversity-duty-public-authority-duty-to-have-regard-to-conserving-biodiversity>.

Government Circular 06/2005 states that Biodiversity Action Plan (BAP) species and habitats, '*are capable of being a material consideration...in the making of planning decisions*'. NE therefore advises that survey, impact assessment and mitigation proposals for Habitats and Species of Principal Importance should be included in the ES. Consideration should also be given to those species and habitats included in the relevant Local BAP.

For Developments with a Land based element

NE advises that a habitat survey (equivalent to Phase 2) is carried out on the site, to identify any important habitats present. In addition, ornithological, botanical and invertebrate surveys should be carried out at appropriate times in the year, to establish whether any scarce or priority species are present.

Consideration should also be given to the potential environmental value of brownfield sites, often found in urban areas and former industrial land. Sites can be checked against the (draft) national Open Mosaic Habitat (OMH) inventory published by NE and freely available to [download](#). Further information is also available [here](#).

The Environmental Statement should include details of:

- Any historical data for the site affected by the proposal (e.g. from previous surveys);
- Additional surveys carried out as part of this proposal;
- The habitats and species present;
- The status of these habitats and species (e.g. whether priority species or habitat);
- The direct and indirect effects of the development upon those habitats and species;
- Full details of any mitigation or compensation that might be required.
- Opportunities for biodiversity net gain or other environmental enhancement

The development should seek if possible, to avoid adverse impact on sensitive areas for wildlife within the site, and if possible, provide opportunities for overall wildlife gain.

The record centre for the relevant Local Authorities should be able to provide the relevant information on the location and type of priority habitat for the area under consideration.

2.8 Ancient Woodland, ancient and veteran trees

Ancient woodland is an irreplaceable habitat of great importance for its wildlife, its history, and the contribution it makes to our diverse landscapes. Paragraph 186 of the National Planning Policy Framework (NPPF) sets out the highest level of protection for irreplaceable habitats and development should be refused unless there are wholly exceptional reasons, and a suitable compensation strategy exists.

The ES should assess the impacts of the proposal on ancient woodland and any ancient and veteran trees, and the scope to avoid and mitigate for adverse impacts. It should also consider opportunities for enhancement.

NE maintains the [Ancient Woodland Inventory](#) which can help identify ancient woodland. The [wood pasture and parkland inventory](#) sets out information on wood pasture and parkland.

The [ancient tree inventory](#) provides information on the location of ancient and veteran trees.

NE and the Forestry Commission have prepared [standing advice](#) on ancient woodland, ancient and veteran trees.

2.9 Contacts for Local Records

NE does not hold local information on local sites, local landscape character and local or national biodiversity priority habitats and species. We recommend that you seek further information from the appropriate bodies (which may include the local records centre, the local wildlife trust, local geoconservation group or other recording society and a local landscape characterisation document).

3. Landscape/Seascape Character

3.1 Landscape/Seascape and visual impacts

NE would wish to see details of local landscape character areas mapped at a scale appropriate to the development site as well as any relevant management plans or strategies pertaining to the area. The EIA should include assessments of visual effects on the surrounding area and landscape together with any physical effects of the development, such as changes in topography.

The EIA should include a full assessment of the potential impacts of the development on local landscape character using [landscape/seascape assessment methodologies](#). We encourage the use of Landscape and Seascape Character Assessment (LCA/SCA), based on the good practice guidelines produced jointly by the Landscape Institute and Institute of Environmental Assessment in 2013. LCA/SCA provides a sound basis for guiding, informing and understanding the ability of any location to accommodate change and to make positive proposals for conserving, enhancing or regenerating character, as detailed proposals are developed.

NE supports the publication *Guidelines for Landscape and Visual Impact Assessment*, produced by the Landscape Institute and the Institute of Environmental Assessment and Management in 2013 (3rd edition). The methodology set out is almost universally used for landscape and visual impact assessment.

To foster high quality development that respects, maintains, or enhances, local landscape / seascape character and distinctiveness, NE encourages all new development to consider the character and distinctiveness of the area, with the siting and design of the proposed development reflecting local design characteristics and, wherever possible, using local materials. The Environmental Impact Assessment process should detail the measures to be taken to ensure the building design will be of a high standard, as well as detail of layout alternatives together with justification of the selected option in terms of landscape impact and benefit.

The assessment should also include the cumulative effect of the development with other relevant existing or proposed developments in the area. In this context NE advises that the cumulative impact assessment should include other proposals currently at Scoping stage. Due to the overlapping timescale of their progress through the planning system, cumulative impact of the proposed development with those proposals currently at Scoping stage would be likely to be a material consideration at the time of determination of the planning application.

The assessment should refer to the relevant [National Character Areas](#) which can be found on our website. Links for Landscape / Seascape Character Assessment at a local level are also available on the same page.

<https://www.gov.uk/government/publications/seascape-assessments-for-north-east-north-west-south-east-south-west-marine-plan-areas-mmo1134>

<https://data.gov.uk/dataset/3fed3362-2279-4645-8aaf-c6b431c94485/mmo1037-marine-character-areas>

4. Access and Recreation

NE encourages any proposal to incorporate measures to help encourage people to access the countryside for quiet enjoyment. Measures such as reinstating existing footpaths together with the creation of new footpaths and bridleways are to be encouraged. Links to other green networks and, where appropriate, urban fringe areas should also be explored to help promote the creation of wider green/blue infrastructure. Relevant aspects of local authority green/blue infrastructure strategies should be incorporated where appropriate.

4.1 England Coast Path

The England Coast Path (ECP) is a National Trail that will extend around all of England's coast with an associated margin of land predominantly seawards of this, for the public to access and enjoy. NE takes great care in considering the interests of both landowners/occupiers and users of the England Coast Path, aiming to strike a fair balance when working to open a new stretch. We follow an approach set out in the approved Coastal Access Scheme and all proposals have to be approved by the Secretary of State. We would encourage any proposed development to include appropriate provision for the England Coast Path to maximise the benefits this can bring to the area. We suggest that the development includes provision for a walking or multi-user route, where practicable and safe. This should not be to the detriment of nature conservation, historic environment, landscape character or affect natural coastal change. Consideration for how best this could be achieved should be made within the ES.

As part of the development of the ECP a 'coastal margin' is being identified. The margin includes all land between the trail and the sea. It may also extend inland from the trail if:

- it's a type of coastal land identified in the Countryside and Rights of Way Act 2000 (CROW Act), such as beach, dune or cliff
- there are existing access rights under section 15 of the CROW Act
- NE and the landowner agree to follow a clear physical feature landward of the trail

Maps for sections of the ECP and further proposals for adoption are available here:

<https://www.gov.uk/government/collections/england-coast-path-improving-public-access-to-the-coast>

4.2 Rights of Way, Access land and Coastal access

The EIA should consider potential impacts on access land, public open land, rights of way and coastal access routes in the vicinity of the development. Appropriate mitigation measures should be incorporated for any adverse impacts. We also recommend reference to the relevant Right of Way Improvement Plans (ROWIP) to identify public rights of way within or adjacent to the proposed site that should be maintained or enhanced.

Measures to help people to better access the countryside for quiet enjoyment and opportunities to connect with nature should be considered. Such measures could include reinstating existing footpaths or the creation of new footpaths, cycleways, and bridleways. Links to other green networks and, where appropriate, urban fringe areas should also be explored to help promote the creation of wider green infrastructure.

Relevant aspects of local authority green infrastructure strategies should be incorporated where appropriate.

5. Soils and agricultural land quality

Soils are a valuable, finite natural resource and should also be considered for the ecosystem services they provide, including for food production, water storage and flood mitigation, as a carbon store, reservoir of biodiversity and buffer against pollution. It is therefore important that the soil resources are protected and sustainably managed. Impacts from the development on soils and best and most versatile (BMV) agricultural land should be considered. Further guidance is set out in the NE Guide to assessing development proposals on agricultural land.

The following issues should be considered and, where appropriate, included as part of the ES:

- The degree to which soils would be disturbed or damaged as part of the development.
- The extent to which agricultural land would be disturbed or lost as part of this development, including whether any BMV agricultural land would be impacted.

This may require a detailed Agricultural Land Classification (ALC) survey if one is not already available. For information on the availability of existing ALC information see www.magic.gov.uk.

Where an ALC and soil survey of the land is required, this should normally be at a detailed level, e.g. one auger boring per hectare, (or more detailed for a small site) supported by pits dug in each main soil type to confirm the physical characteristics of the full depth of the soil resource, i.e. 1.2 metres. The survey data can inform suitable soil handling methods and appropriate reuse of the soil resource where required (e.g. agricultural reinstatement, habitat creation, landscaping, allotments and public open space).

The ES should set out details of how any adverse impacts on BMV agricultural land can be minimised through site design/masterplan. The ES should set out details of how any adverse impacts on soils can be avoided or minimised and demonstrate how soils will be sustainably used and managed, including consideration in site design and master planning, and areas for green infrastructure or biodiversity net gain. The aim will be to minimise soil handling and maximise the sustainable use and management of the available soil to achieve successful after-uses and minimise off-site impacts.

Further information is available in the Defra Construction Code of Practice for the Sustainable Use of Soil on Development Sites and The British Society of Soil Science Guidance Note Benefitting from Soil Management in Development and Construction.

6. Water Quality

Increases in suspended sediment concentrations (SSC) during construction and operation (e.g. future dredging and disposal works) have the potential to smother sensitive habitats. The ES should include information on the sediment quality and potential for any effects on water quality through suspension of contaminated sediments. The EIA should also consider whether increased suspended sediment concentrations resulting are likely to impact upon the interest features and supporting habitats of the designated sites as listed above.

The ES should consider whether there will be an increase in the pollution risk as a result of the construction or operation of the development.

For activities in the marine environment up to 1 nautical mile out at sea, a Water Framework Directive (WFD) assessment is required as part of any application. The ES should draw upon and report on the WFD assessment considering the impact the proposed activity may have on the immediate water body and any linked water bodies. Further guidance on WFD assessments is available here: <https://www.gov.uk/guidance/water-framework-directive-assessment-estuarine-and-coastal-waters>

7. Air Quality

Air quality in the UK has improved over recent decades but air pollution remains a significant issue. For example, approximately 85% of protected nature conservation sites are currently in exceedance of nitrogen levels where harm is expected (critical load) and approximately 87% of sites exceed the

level of ammonia where harm is expected for lower plants (critical level of 1µg)[1]. A priority action in the England Biodiversity Strategy is to reduce air pollution impacts on biodiversity. The Government's Clean Air Strategy also has a number of targets to reduce emissions including to reduce damaging deposition of reactive forms of nitrogen by 17% over England's protected priority sensitive habitats by 2030, to reduce emissions of ammonia against the 2005 baseline by 16% by 2030 and to reduce emissions of NOx and SO2 against a 2005 baseline of 73% and 88% respectively by 2030. Shared Nitrogen Action Plans (SNAPs) have also been identified as a tool to reduce environmental damage from air pollution.

The planning system plays a key role in determining the location of developments which may give rise to pollution, either directly or from traffic generation, and hence planning decisions can have a significant impact on the quality of air, water and land. The ES should take account of the risks of air pollution and how these can be managed or reduced. This should include taking account of any strategic solutions or SNAPs, which may be being developed or implemented to mitigate the impacts of air quality. Further information on air pollution impacts and the sensitivity of different habitats/designated sites can be found on the Air Pollution Information System (www.apis.ac.uk).

NE has produced guidance for public bodies to help assess the impacts of road traffic emissions to air quality capable of affecting European Sites. NE's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations - NEA001

Information on air pollution modelling, screening and assessment can be found on the following websites:

- SCAIL Combustion and SCAIL Agriculture - <http://www.scail.ceh.ac.uk/>
- Ammonia assessment for agricultural development <https://www.gov.uk/guidance/intensive-farming-risk-assessment-for-your-environmental-permit>
- Environment Agency Screening Tool for industrial emissions <https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit>
- Defra Local Air Quality Management Area Tool (Industrial Emission Screening Tool) – England <http://www.airqualityengland.co.uk/laqm>

8. Climate Change Adaptation

The [England Biodiversity Strategy](#) published by Defra establishes principles for the consideration of biodiversity and the effects of climate change. The ES/Application should reflect these principles and identify how the development's effects on the natural environment will be influenced by climate change, and how ecological networks will be maintained. The NPF requires that the planning system should contribute to the enhancement of the natural environment 'by establishing coherent ecological networks that are more resilient to current and future pressures' ([NPPF](#) Para 174), which should be demonstrated through the ES/Application.

Further information is available from the [Committee on Climate Change's \(CCC\) Independent Assessment of UK Climate Risk](#), the [National Adaptation Programme \(NAP\)](#), the [Climate Change Impacts Report Cards](#) (biodiversity, infrastructure, water etc.) and the [UKCP18 climate projections](#).

9. Cumulative and in-combination effects

It will be important for any assessment to consider the potential cumulative effects of this proposal, including all supporting infrastructure, with other similar proposals and a thorough assessment of the 'in combination' effects of the proposed development with any existing developments and current applications. A full consideration of the implications of the whole scheme should be included in the Application. All supporting infrastructure and activities should be included within the assessment.

The ES/Application should include an impact assessment to identify, describe and evaluate the effects that are likely to result from the project in combination with other projects and activities that are being, have been or will be carried out. The following types of projects should be included in such an assessment, (subject to available information):

- a. existing completed projects;
- b. approved but uncompleted projects;
- c. ongoing activities;
- d. plans or projects for which an application has been made and which are under consideration by the consenting authorities; and
- e. plans and projects which are reasonably foreseeable, i.e., projects for which an application has not yet been submitted, but which are likely to progress before completion of the development and for which sufficient information is available to assess the likelihood of cumulative and in-combination effects.

NE's advice on the scope and content of an Environmental Statement is given in accordance with the National Infrastructure Planning Advice Notes: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/> . We advise that all Applications use this as a template.

10. Use of the Rochdale Envelope

NE recognises the need to use a Rochdale Envelope approach to allow flexibility in project design to ensure that changes in available technologies and project economics can be considered post consent. However, NE has concerns over the extent to which uncertainty in ground conditions is driving the extent of the project envelope, and that the Rochdale Envelope approach is resulting in the provision of insufficient baseline information to inform both project design and assessment of impacts. The lack of understanding of the ground conditions results in the use of Maximum Design Scenarios (MDSs) that are conservative enough to make up for that lack of understanding and allow for all eventualities. This in turn translates into a vast number of variables, causing difficulties in assessment, as it is difficult to identify and assess a realistic worst-case scenario for each of the relevant receptors with any certainty, which in turn necessitates precautionary assessments given this uncertainty. That presents challenges when it comes to identifying appropriate mitigation measures.

11. Ecological join up between marine receptor assessments

NE advises that changes to marine processes and benthic ecology could cause an indirect impact on mobile interest features from designated sites through changes to supporting habitats and prey availability. Ecosystem impacts should be thoroughly considered within the relevant receptor chapters throughout the ES.

12. Marine Mammals impact assessments

If not already considered, we advise the Applicants utilise the following information sources to aid their assessment:

1. *IAMMWG. 2022. Updated abundance estimates for cetacean Management Units in UK waters (Revised 2022)* <https://hub.incc.gov.uk/assets/3a401204-aa46-43c8-85b8-5ae42cdd7ff3>
2. *Scientific Advice on Matters Related to the Management of Seal Populations: 2021* <http://www.smru.st-andrews.ac.uk/files/2022/08/SCOS-2021.pdf>
3. *Carter et al. (2022)* <https://www.frontiersin.org/articles/10.3389/fmars.2022.875869/full>

13. Biodiversity Net Gain

Whilst we are currently in the transition phase with requirements for Biodiversity Net Gain (BNG) delivery becoming mandatory for Nationally Significant Infrastructure Projects (NSIPs), NE strongly advises that the project engages with this at an early stage to maximise positive environmental impact and to ensure the project is future proofed. We advise that the sooner net gain is implemented, the sooner habitats can establish. BNG calculations should be made using the most

recent Metric [Statutory biodiversity metric tools and guides - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guides/statutory-biodiversity-metric-tools-and-guides).

The Environment Act 2021 includes NSIPs in the requirement for BNG, with the biodiversity gain objective for NSIPs defined as at least a 10% increase in the pre-development biodiversity value of the on-site habitat. It is the intention that BNG should apply to all terrestrial NSIPs accepted for examination from November 2025. This includes the intertidal zone, but excludes the subtidal zone (an approach to marine net gain is being developed but this will not form part of mandatory BNG). Projects that span both offshore and onshore will be subject to BNG requirements for the onshore components only. Some organisations have made public BNG commitments, and some projects are already delivering BNG on a voluntary basis.

Annex 3 – Detailed Comments

3.1 General Comments (Scoping Report Volume 1)

Section	Paragraph /Table	Comment	Recommendations
General		Offshore Energy Strategic Environmental Assessment (OESEA)	NE notes that the latest OESEA was published in 2022. NE advise that the OESEA may have useful information that should be taken into account by the Mersey Tidal Power Project.
General		Descriptions/assessments are based on high level modelling which has not been provided for scrutiny as part of the scoping report, therefore we cannot currently confirm whether we agree with the zone of influence and impact pathways described. This also presents implications for advice than can be provided in relation to HRA screening at this stage.	NE notes that the modelling will continue to be developed in consultation with NE through the EWG process.
General		There are missing dates for key references throughout the chapters.	NE advises that the submitted ES contains full details for all references used. Site documentation including citations are available from Designated Sites View (naturalengland.org.uk) This also includes links to the Ramsar Site Information Sheets with dates of publication.
General		<p>Designated sites – As a general comment the list of designated sites discussed in the various chapters varies depending on the distance of the study area being used; and it is not always clear as to the rationale for including one site or other.</p> <p>Across many of the chapters, the naming of designated sites and their designations can be confusing and often incorrectly indicate the wrong type of designation such SAC, SPA, SSSI or Ramsar.</p>	<p>NE advises that across the board, there needs to be a better description of all the designated sites especially those within the scoping boundary, with a much clearer approach in identifying features of interest.</p> <p>In addition, separating out the sites depending on the habitats in the benthic and terrestrial chapters means that things may get missed in the assessment process and there can be a lack of consideration of how the habitats interact in dynamic coastal environments.</p>
Volume 1, Chapter 2.2	2.2.4	Ancillary developments – We note that a range of associated ancillary developments and facilities may also be required as part of the Project. Often these projects are subject to separate licence consents or permissions but are intrinsically linked to the original project. It is important that impacts from ancillary projects are considered within the EIA as the cumulative impacts from the	NE advises that impacts from ancillary projects should be included for consideration within the ES.

		Project and ancillary development could potentially be significant.	
Volume 1 Chapter 3	Table 3.3	A matrix for assessment of significance is provided as an example, demonstrating how the sensitivity of receptor against magnitude of impact can determine the significance of effect. Sensitivity of receptor, magnitude of impact and the matrix of significance of effect should be discussed and agreed through the Evidence Planning process.	NE advises that these definitions are discussed and agreed with the relevant EWGs and those definitions should be provided in the ES.
Volume 1, Chapter 3.5	3.5.33	Climate change impacts.	NE advises that climate change impacts over the operational period of MTPP should be considered. These impacts will become important if they cause an alteration in the baseline conditions and become detectable above natural inter-annual variations
Volume 1, Chapter 3.6	3.6	Identification of receptors and the sensitivity of receptors to impact scale definitions should be discussed and agreed as part of the Evidence Plan process with the relevant EWG.	NE advises that these definitions, for sensitivity and impact, should be discussed and agreed through the EWG process, and then set out within the ES.
Volume 1, Chapter 3.6	3.6.14	Mitigation hierarchy - Ideally, many potential impacts could be avoided, or effects reduced at the design stage of the project, through early consideration of ecological constraints, which along with consideration of other environmental features would be used to refine scheme layout, siting and design. Further impacts could also be avoided through careful siting of infrastructure to avoid sensitive environmental receptors at the construction stage.	NE advises that the ES clearly demonstrates where the mitigation hierarchy has been followed wherever appropriate.
Volume 1, Chapter 6.6	General	Protected species and habitats – consideration should be given to species and habitats of conservation importance such as those listed under Annex I of the Habitats Regulations or Habitat of principal importance in England under the Natural Environment and Rural Communities Act 2006 (NERC 2006 Act). Further benthic surveys should identify if these species or habitats are present within the Study Area.	NE advises that consideration should be given to species and habitats of conservation importance in the PEIR and ES.

3.2 Coastal Processes

Section	Paragraph/ Table	Comment	Recommendations
Volume 1, Chapter 5	Chapter 5 General	<p>Coastal processes: Due to disruption to coastal processes and sediment/water supply NE currently has limited confidence on the recoverability of saltmarsh habitats but raises concerns about wider impacts to coastal habitats. Therefore, until the hydrodynamic modelling has been completed and is available it is difficult to make an assessment on the potential impacts of changes to coastal processes due to the installation of the tidal barrage and associated infrastructure such as breakwater and scour protection/ rock armour across the tidal limits of the Mersey Estuary. Water flow, wave heights, currents, channel depth, sediment type, sediment transport and behaviour, salinity, change in nutrient availability etc both in the outer estuary and wider area beyond the estuary mouth and in the inner estuary need to be fully explored (modelled) and described. The chapter also needs to consider the loss of sediment from the system due to dredging, and sediment disposal / reuse elsewhere.</p> <p>The modelling should be of sufficient spatial scale (5.3.1) to adequately identify and assess potential changes to physical processes, both covering the inshore and offshore areas. The study area is noted as being determined by plotting tidal ellipses and it would be useful to understand more about this process, include a map (5.3.3 - 5.3.4).</p> <p>The modelling should look at scenarios with and without the barrage (over its lifetime of 120 years), situated at different locations along the Mersey Estuary. Modelling should consider the operation, construction phase (which could extend for up to 10 years) and decommissioning. All phases could have significant impacts to coastal habitats, particularly around changes in tidal range and sediment supply.</p> <p>The chapter needs to consider how changes to coastal processes</p>	<p>NE advises that a full assessment with detailed modelling outputs is provided in the ES. Modelling should present several scenarios with and without the barrage, situated at different locations along the Mersey Estuary, over its lifetime of 120 years.</p> <p>Local protected sites and features that are vulnerable to changes in coastal processes should not be screened out at this stage as there is insufficient detail to do so.</p>

	<p>will affect the current and future extent and quality of coastal habitats in the scoping boundary. Reference should be made to the Supplementary Advice for Conservation Objectives for the relevant designated sites – which includes supporting processes feature attributes.</p> <p>Data should combine existing data sets for example available through the North West Regional Monitoring Programme, EA (including the EA saltmarsh extent and zonation mapping and recent CASI and Lidar data – captured during the summer of 2024 – likely to be available I 2025) and other data holders along with existing studies/ reports and new data. Historical data can help inform past changes – but future post-construction monitoring and review of modelling should be undertaken to validate predictions – particularly with regards to tidal range/ sediment supply and climate change.</p> <p>Due to further modelling work needed to understand the impacts of the barrage, receptors vulnerable to the impacts of changing coastal processes should not be screened out at this early stage for example Annex I habitats (saltmarsh and shingle) associated with the Dee Estuary SAC.</p> <p>With regards to sediment quality if sediment is being considered for use within a marine enhancement project within the locality further details on sediment contamination (5.6.30).</p> <p>Last bullet of 5.8.1 notes “<i>The proposed grid connection is not being considered as part of the coastal processes scoping assessment, as this will comprise above water and land-based development</i>” – the site description chapter (2.9.9) notes that a marine / coastal grid connection maybe necessary depending on the location of the barrage and the proposed sub-station location. Therefore, at this stage this should not be dismissed/ ruled out in Chapter 5t.</p> <p>As noted, embedded mitigation such as the Outline Construction</p>	
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		Environmental Management Plan / Marine Pollution Contingency Plan cannot be used at the screening stage of the HRA (5.9.3).	
Volume 1, Chapter 2	2.3.3	This section states that the tidal pattern repeats every 17.6 years.	NE queries if this should be 18.6 years due to the lunar nodal cycle. Clarification should be provided in the ES.
Volume 1, Chapter 2	2.3.20	This section states “The Ribble and Alt Estuaries SPA/Ramsar are outside of the scoping boundaries.” NE advises that further justification is required to demonstrate that there are no potential impact pathways to these sites.	NE advises that at this stage, The Ribble and Alt Estuaries SPA/ Ramsar should be scoped in. The following reports present evidence to show the populations of birds across the Mersey SPA/Ramsar, Mersey Narrows and North Wirral Foreshore SPA/Ramsar and Ribble and Alt SPA/Ramsar are linked: <ol style="list-style-type: none"> 1. NE Commissioned Report NECR172 Waterbird population trend analysis of the Mersey Estuary SPA, Mersey Narrows & North Wirral Foreshore pSPA and Ribble & Alt Estuaries SPA 2. Review and analysis of changes in waterbird use of the Mersey Estuary SPA, Mersey Narrows & North Wirral Foreshore pSPA and Ribble & Alt Estuaries SPA (NECR173).
Volume 1, Chapter 2	2.7.16 & 2.10.6	Maintenance dredging – as with previous comment (2.5.21 -2.5.22) We would like to see a map of where the dredging may occur, both during construction (and also during the operational phase along the constructed marine navigation and in front of the tidal barrage) and where this material will be disposed. We need clarity as to whether the existing marine disposal facilities have capacity for this level of disposal, or whether a project-specific marine disposal area may be required. There needs to be discussion around the potential loss of sediment on this scale from the sediment cell, which could cause significant impacts on the future of coastal habitats in terms accretion. Consideration of reuse of any appropriate sediment should be	NE advises that detail is provided on the capacity of existing marine disposal options and where these are located. Include worst case scenario assessment within the ES, this may extend to a project specific marine disposal area. Potential options for this should be explored and mapped within the ES. Further discussion is required around the scale of potential sediment loss from the sediment cell and the impact this may have on coastal habitats. Demonstration of how dredged sediment (where appropriate) may be reused in a beneficial manner,

		made, ideally within the sediment system. Further details are needed as to what is being considered in terms of contributing to a local marine enhancement project (<i>i.e.</i> BUDS) – as this could also influence local coastal habitats beyond the scoping boundary.	<i>i.e.</i> consideration of the waste disposal hierarchy.
Volume 1, Chapter 5	5.6.23	<p>There needs to be further consideration of the Shoreline Management Plan (SMP) (5.6.23) and coastal processes and how SMP policies may be influenced by the barrage (a map would be useful). Particularly in the more natural sections of the estuary. The study area should include the proposed disposal areas (with an adequate buffer depending on local conditions) and consider how sediments that are used for any marine enhancement projects could influence coastal habitats. There should also be consideration of coastal squeeze and Sea-level rise – both in terms of habitat extent but also quality. The NE / EA agreed coastal squeeze definition should be used.</p> <p>Coastal squeeze is defined as ‘<i>the loss of natural habitats or deterioration of their quality arising from anthropogenic structures or actions, preventing the landward transgression of those habitats that would otherwise naturally occur in response to sea level rise in conjunction with other coastal processes. Coastal squeeze affects habitat on the seaward side of existing structures.</i>’</p>	NE advises that further detail is provided on how the Shoreline Management Plan has been considered fully.
Volume 1, Chapter 5	Table 5-17	<p>The table seems to only focus on a few activities and impacts along with their associated pathways. The table does not mention changes associated with:</p> <ul style="list-style-type: none"> - changes to tidal range/ tidal regime and its effect on habitats and species - sediment deposition of disposed / disturbed sediment over habitats. - loss of sediment supply in upper parts of the estuary. 	NE advises that a full assessment of activities and impacts is provided in the ES, along with their associated pathways.
Volume 1, Chapter 5	5.10.9	As noted, it is too early to scope out the potential effects from the marine disposal of sediment and accidental pollution events.	NE advises that the impact pathways for marine disposal of sediment and accidental pollution should be scoped into the ES.
Volume 1, Chapter 5	5.3.3	The study area has been defined plotting tidal ellipses from tidal speed and direction data. We query if this has considered the potential changes in these extents during the design life of the barrage?	NE advises that clarification should be provided in the ES on how changes to tidal ellipses have been considered throughout the design life of the barrage. A figure should also be included within the ES to

			show the tidal ellipses.
Volume 1, Chapter 5	5.6.6 to 5.6.9	Description of bathymetry and dredged areas needs visualisation.	NE advises that a figure is provided within the ES to show the depth contours in the study area and to show the dredged and disposal areas. In addition, vessel transit movements may provide further helpful context for consideration of assessment of any vessel disturbance.
Volume 1, Chapter 5	5.6.2	It is unclear what data has been used in the sources of data used for modelling table. For example, was data collected from the Northwest Regional Monitoring Programme? - https://www.mycoastline.org.uk/coastal-monitoring-methods/	NE advises that clarity is provided on what data sources were used for modelling and reference this in the ES.
Volume 1, Chapter 5	5.6.28	This section describes transport of sediment in the outer estuary. We advise that this is also influenced by the training walls to the mouth of the Mersey- see Long term morphological change and its c.pdf (sustainablebeach.org.uk)	NE advises that the assessment for transport of sediment also takes into account any potential training walls that may be installed.
Volume 1, Chapter 5	5.6.35	This section states further data collection will be needed to validate historic data and support the assessment of mobilisation of sediment - borne contaminants	NE advises that the ES should include a table to show which datasets have been used to assess which impact. This should be accompanied by maps to show spatial relevance of datasets. Brooks, AJ., Whitehead, PA., Lambkin, DO. 2018. Guidance on Best Practice for Marine and Coastal Physical Processes Baseline Survey and Monitoring Requirements to inform EIA of Major Development Projects. NRW Report No: 243, 119 pp, Natural Resources Wales, Cardiff. Available from guidance-on-best-practice-for-marine-and-coastal-physical-processes-baseline-survey-and-monitoring-requirements-to-inform-eia-of-major-development-projects.pdf (naturalresources.wales) Table 7 provides a useful best practice guide to baseline data requirements. The proposals for further data collection will help further characterise the estuary. It will be important to define the scale of natural variability for the estuary.

Volume 1, Chapter 5	5.7.1	<p>Future baseline - Although the baseline conditions will alter with climate change, the upper estuary changes dynamically already. The ES will need to assess how the barrage structure will impact this. For example: Gilford and Partners looked at historic data to show how the channel in the Mersey had migrated over time using aerial photography (p21) Microsoft Word - B4027.TR03.03 Morphology Desk Study Oct 2004.doc (merseygateway.co.uk).</p>	<p>NE advises that further consideration is included in the ES on how the barrage structure will impact the upper estuary when it changes dynamically already.</p> <p>NE advises that further information is provided on what monitoring will be undertaken to validate predictions related to climate change modelling / predictions given the length of time that the barrage will be in situ.</p>
Volume 1, Chapter 5	5.10.7	<p>Modelling - It is understood that further work on modelling will be undertaken.</p> <p>Due to further modelling work needed to understand the impacts of the barrage, we advise that receptors vulnerable to the impacts of changing coastal processes should not be screened out at this early stage.</p>	<p>NE advises that all models should be of sufficient spatial scale to adequately identify and assess potential changes to physical processes. When considering modelling, the reason for the use of a particular model, limitations of the model and how the model is calibrated should be presented. This should include the details of any surveys used to calibrate the model. Consideration should also be given of any post construction surveys needed to validate the model predictions where necessary.</p> <p>The simulations run through the models should consider various scenarios which could reduce the impact of the barrage on features of the National Site Network e.g. this report reviewed how changes in turbine use could reduce impacts on tidal range ENVIRONMENTAL IMPACTS OF TIDAL POWER SCHEMES (nerc.ac.uk)</p>
Volume 1, Chapter 5	5.10.8	<p>Table 5.17- Likely significant hydrodynamic, coastal process and water and sediment quality effects</p>	<p>Annex 10 of the following report provides a useful table of potential impacts from tidal lagoon development which can be used to review receptor impact from the barrage GN060 Information to support Environmental Assessment of tidal lagoon developments in Wales (naturalresources.wales)</p> <p>NE advises that the ES should consider impacts on the overall sediment budget. Further information and data needed to compile the sediment budget can be</p>

			<p>found here- https://assets.publishing.service.gov.uk/media/6036418e8fa8f54807540911/Sediment_budget_analysis_practitioner_guide_-_report.pdf</p> <p>NE advises that the ES should consider changes to salinity and subsequent changes in sediment deposition from the cooling water system and discharge of surface water draining from the access road. Consider the impacts on water quality.</p>
Volume 1, Chapter 5	5.10.11	Potential effects from the marine disposal of sediment - this has been scoped out of the assessment assuming that sediment will be able to be disposed of at an existing offshore disposal site.	<p>NE advises that potential effects from marine disposal of sediment should be scoped into the assessment until further clarity is given on the location of the disposal site. The Applicant should engage with the relevant authorities (MMO and Cefas) to determine suitable offshore disposal options.</p> <p>We also advise that the Applicant considers a sediment management group for the MTPP. Further information regarding best practice of sediment management from dredging can be found here: Restoring Estuarine and Coastal Habitats with Dredged Sediment - CaBA (catchmentbasedapproach.org)</p>

3.3 Terrestrial Ecology

Section	Paragraph/Table	Comment	Recommendations
Volume 1, Chapter 2	2.3.31-2.42	Infrastructure section – key infrastructure is discussed in the text, along the Mersey from its mouth to its inland tidal extent.	NE advises that a map is provided to show key infrastructure along the River Mersey.
Volume 1, Chapter 2	2.91 – 2.94 & 2.9.9	Clarity is needed on the route and method of grid connection that will be required especially if it needs to cross sensitive habitats. The worst-case scenario, such as open cut methods (and direct impacts to habitats) should be used in the assessment even if later opportunities to undertake trenchless installation is used.	NE advises that details on the route and method of grid connection must be provided and fully assessed within the ES.
Volume 1, Chapter 9	Table 9-16	<p>We note that above water noise (for Construction vehicles, vessels and plant and artificial light) has been scoped in here and reference made to the use of noise assessments within Chapter 22 to assess the area over which noise thresholds for species might be exceeded.</p> <p>It is not clear that appropriate noise data will be available to inform the noise modelling as Chapter 22 refers only to human receptors and not ecological receptors. Appropriate baseline noise data for ecological receptors will be required to complete a robust assessment.</p> <p>Further clarity is also required within the ES regarding ‘noise thresholds for species’ and how these are to be considered.</p>	NE advises that the appropriate baseline information is used to inform the assessment of above water noise for all appropriate receptors.
Volume 1, Chapter 13	Chapter 13 General	<p>Terrestrial ecology – note this only considers comments on coastal habitats <i>i.e.</i> sand dunes (and shingle and maritime cliff and slope if present).</p> <p>The key concerns relating to these habitats are any changes in sediment transport and tidal regimes that influence both current extent/ condition as well as future extent and condition. Direct habitat loss with regards to associated infrastructure, for example port and marine facilities and grid connection. Indirect impacts associated with air quality (particularly NOx and PM10 and PM25) and dust deposition, or cabling that influences local hydrology particularly an issue on sand dunes where the position of the water table is important for dune slack habitats.</p>	NE advises that the assessment for sand dunes (and shingle and maritime cliff and slope if present) fully assesses the key concerns surrounding changes to sediment transport and tidal regimes.
Volume 1, Chapter 13	13.1.3-4	It is noted that Chapter 13 is considering only the terrestrial aspects of the project including the Grid Connection Development Area, associated enabling works, and the Port and Marine Facilities. However, it is noted in Table 3-2 that Terrestrial Ecology & Biodiversity is stated to be relevant also	NE advises that clarity is provided within the ES on the assessment of designated site features to ensure all are fully assessed and that where different features

		<p>to the tidal barrage.</p> <p>It is not clear that all potential impacts on designated sites that have been scoped into the terrestrial ecology chapter will be fully considered by the ES if the tidal barrage element is not also considered here. Further details should be provided to ensure relevant features are assessed and detail in the ES should set out where assessments can be found.</p>	<p>are being considered within different chapters there is adequate explanation so that assessments can be located easily.</p>
Volume 1, Chapter 21	Chapter 21 General	<p>Air Quality - note this only considers comments relating to AQ on coastal habitats <i>i.e.</i> saltmarsh, sand dunes (and shingle and maritime cliff and slope if present).</p> <p>During construction the key impact to coastal habitats particularly sand dunes is indirect impacts associated with air quality (particularly NOx and PM10 and PM25) and dust deposition. Up to date data from APIS should be used to support air quality assessments.</p>	<p>NE advises that the assessment fully considers the key impact to coastal habitats associated with air quality.</p>
Volume 1, Chapter 21	21.6.4	<p>Sensitive receptors are discussed at this section and within this paragraph it is stated that 'Designated ecological sites within the baseline Study Area containing nitrogen sensitive species include the Sefton Coast Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI) in Sefton, the Dee Estuary SAC and Dibbinsdale SSSI in the Wirral'. NE advise that consideration should be given to the potential for impacts on wider designated sites.</p> <p>The following distance thresholds should be applied when scoping in potential ecological receptors that may be affected by changes to air quality:</p> <ul style="list-style-type: none"> • Road traffic emissions, plant and construction equipment – Habitat Sites and SSSIs within 200m of an affected road network or site³. • Dust generated during construction – 200m of the source of dust. 	<p>NE advises that further consideration is required for Internationally and Nationally designated sites that may be impacted by air quality effects.</p> <p>Saltmarsh is a notified feature of the Mersey Estuary, Mersey Narrows and North Wirral Foreshore SSSI's. As this is a potentially nitrogen-sensitive ecological feature, these sites should be scoped in.</p> <p>Additionally, the ES should consider air quality impacts to supporting habitats of Mersey Estuary SPA/Ramsar, Mersey Narrows & North Wirral Foreshore SPA/Ramsar, and Ribble & Alt Estuaries SPA/Ramsar.</p>
Volume 1, Chapter 21	21.10.4	<p>NE agrees that operational and maintenance impacts on air quality can be scoped out due to the nature of the project.</p>	<p>N/A</p>
Volume 3		<p>An assessment of LSE to coastal habitats cannot be truly assessed at this</p>	<p>NE advises that hydrodynamic modelling</p>

³ <https://publications.naturalengland.org.uk/publication/4720542048845824>

Appendix 3.3 HRA		stage as we require both the hydrodynamic modelling and habitat surveys. These studies will help identify and understand the impacts of the barrage receptors vulnerable to the impacts of changing coastal processes. As such no designated sites should be screened out at this early stage. For example, the Annex I habitats found on the Dee Estuary (as shown in row 3 of Table 5-2) – noting previous comments on the very recent (within last few years) expansion of saltmarsh and sand dune habitat along the North Wirral Foreshore SSSI - (including the presence of a Schedule 8 and Annex 2 plant <i>Rumex rupestris</i> (Shore Dock)). Considerations of changes to sediment transport, tidal regimes, water flows – which could influence the future extent and condition of these developing habitats.	and habitat surveys are provided within the ES. Without this detail, no assessment of LSE can be truly assessed, and therefore, no designated sites should be screened out at this stage.
Volume 3 Appendix 3.3 HRA	1.4.25	The text correctly notes that embedded mitigation such as the Outline Construction Environmental Management Plan cannot be considered at the screening stage of the HRA. This follows the decision by the Court of Justice of the European Union (CJEU) ‘People Over Wind and Sweetman v Coillte Teoranta’ (C-323/17) (CJEU 2018) that dictates that measures intended to avoid or reduce the harmful effects of a proposed project on a European site may no longer be taken into account by competent authorities at the HRA screening stage when judging whether a proposed plan or project is likely to have a significant effect on the integrity of a European designated site – to ensure transparency when assessing LSE. However, later on, in table 5-2 Release of litter is screened out based on embedded mitigation measures.	NE advises that the Applicant should ensure the assessment is consistent in following HRA case law. The People over Wind and the Sweetman ruling (CURIA - Documents (europa.eu)) rule out from consideration at the HRA screening stage any measures embedded in a plan or project designed to avoid or mitigate potentially harmful impacts on a European site.
Volume 3 Appendix 3.3 HRA	6.1.3	This paragraph mentions the NE Public register. However, it is not clear what is being referred to here.	NE advises that additional detail should be provided how NE’s Public register is being used.
Volume 3 Appendix 3.3 HRA	6.1.16	There is mention of the HyNet North West (NW) development and the text here refers to a pipeline and the lack of overlap with this scheme. However, further elements of HyNet NW need to be considered.	NE advises that the ES should contain consider all aspects of the HyNet NW development scheme.

3.4. Benthic Subtidal and Intertidal Ecology

Section	Paragraph /Table	Comment	Recommendations
Volume 1, Chapter 6		There is little information presented on the impacts on plankton within this section. In addition, it is advised plankton should be treated separately.	NE advises that it would be preferable to treat plankton separately to intertidal and subtidal benthic habitats. Clear consideration should be included as to how plankton could be impacted and the potential residual effects of this project on plankton communities
Volume 1, Chapter 6	6.1.1	<i>“This chapter does not consider the use of existing port and marine facilities during the construction phase.”</i> – As with our comments in the upfront section, cumulative impacts from the Project and ancillary projects could be significant. Therefore, we advise that ancillary projects should be included within the EIA to ensure potential impacts from all associated projects have been considered.	NE advises that impacts from ancillary projects should be included for consideration within the ES.
Volume 1, Chapter 6	6.11.4 Table 6-15 (row 1 & row 10)	<p>It is unclear what this paragraph is trying to say. If it is saying that habitat loss is only considered (in this assessment) during the operation phase (following construction), rather than trying to identify when during the construction the habitat will be lost, this is acceptable at this stage due to the lack of information regarding the construction methods. However, for the final assessment it will be important to consider when areas of habitat will be lost and the extent of loss during each construction phase. This will help determine when compensation (if needed) should be in place and the areas required.</p> <p>In addition, clarity around what is meant by <i>long-term habitat loss</i> is needed. If the impacts are lasting and the habitat is unlikely to show recovery whilst the infrastructure is in place, and that infrastructure will be in place for an extended period (in this case multiple years) then the effects may result in permanent habitat loss. In addition, there is no guarantee of recovery if the infrastructure is removed especially when it will be replaced by another permanent feature <i>i.e.</i> the barrage.</p>	<p>NE advises that the ES will need to consider when areas of habitat will be lost and to what extent during each construction phase. This will help determine when compensation (if needed) should be in place and which areas will be required.</p> <p>In addition, NE advises that clarity is needed around what is meant by <i>long-term habitat loss</i>.</p>

		<p>This also relates to Table 6-15 where it says temporary habitat loss during construction from infrastructure – depending on time that coffer dam etc are in-situ and the changes that result this could be a permanent loss. Areas such as the breakwater and rock armour are permanent infrastructure and depending on what is present could result in a permanent habitat loss.</p>	
Volume 1, Chapter 6	Table 6-3 and also Table 6-13	<p>In addition to NE comments from 2023 regarding the use of the EA saltmarsh extent and zonation data – the Applicant should include a comparison between the most recent data layer (<i>i.e.</i> 2016 and 2019) and the previous data capture period (2006-2009). We know that this area is highly dynamic and the saltmarsh particularly along the North Wirral Foreshore SSSI / Dee Estuary SAC at the Hoylake end is expanding (although this is not shown on either of the EA Saltmarsh extent layers). The future potential of saltmarsh development in this area should be considered. During the summer of 2024 NE/ EA undertook CASI and Lidar data collection of this area and the data should be available during 2025.</p> <p>Further to the comment on undertaking an adequate phase II or NVC level saltmarsh (and sand dune if required) surveys it is important that the surveys include areas both directly and indirectly impacted by the proposed tidal barrage. Surveys should be sufficient to determine LSE of worst-case scenarios for example should the grid connection require crossing through coastal habitats to reach the sub-station – it is important to assess this based on requiring open cut methods.</p> <p>As the comment notes NE would recommend that vegetation sampling is carried out (typically at least 5 quadrats in each homogenous vegetation community), with the vegetation zonation reflected in sampling. Sufficient samples are required to reflect the diversity of saltmarsh communities. In addition, attributes given in the CSM guidance CSM Guidance Saltmarsh and CSM guidance sand dune that help determine quality (along with extent) should be recorded. Attributes for Annex I habitat types (which include consideration of for example coastal,</p>	<p>NE advises that a comparison should be included of the EA saltmarsh extent and zonation data between the most recent data layer and the previous data capture period.</p> <p>Phase II or NVC level saltmarsh surveys should include areas that will be directly and indirectly impacted by the proposed tidal barrage. These surveys should be sufficient to determine LSE of worst-case scenarios.</p> <p>Vegetation sampling should also be carried out for areas of saltmarsh.</p>

		<p>supporting processes) should following those set out in the Supplementary Advice Conservation Objectives – these are available on NE’s Designated Site View - https://designatedsites.naturalengland.org.uk/</p> <p>All botanical surveys should be carried out an appropriate time of year, and in some circumstances may require several visits to ensure true reflection of the plant species present (<i>i.e.</i> for sand dunes). A competent botanist who is at least a level 4 FISC should undertake the surveys.</p> <p>The use of drone surveys is a useful tool to help map the interface between mudflats and saltmarsh especially where there might be access difficulties. Consent/ assents for drone surveys will be required.</p>	
Volume 1, Chapter 6	Table 6-7	The table does not conform to the other tables for the other significance of effect criteria – first column is not highlighted like the others and therefore can be misinterpreted easily.	NE advises that there should be consistency across significance of effect criteria in the ES.
Volume 1, Chapter 6	Table 6-8	<p>Additional resources: Habitat mapping provided by the Northwest Regional Monitoring Programme - https://coastalmonitoring.org/cco/ available for 2013 and from between 2017-2019.</p> <p>WER species data from the quadrats taken along transect are available on data.gog.uk https://www.data.gov.uk/dataset/80e52e06-8428-4545-85d9-3aeb76525efc/saltmarsh-species</p>	NE advises that these additional resources should be used to inform the ES.
Volume 1, Chapter 6	Table 6-8	It would be appropriate to also include NE’s Advice on Operations. For the designated sites within the scoping boundary, this will also provide sensitivity information for biotopes that could potentially occur within the scoping boundary, not just those that have been identified through existing data and surveys.	NE advises that NE’s Advice on Operations should be included in the ES as a source of information for sensitivity. Site Search (naturalengland.org.uk)
Volume 1, Chapter 6	Table 6-8 & 6.6.2	A summary of the site-specific intertidal walkover survey for the Project (RSK, 2023) would have been helpful to include within the EIA scoping report. However, we anticipate full details to be provided within an Annex to the PEIR and ES. Full details of the	NE advises that the full details for survey methods and results are included for the site specific intertidal walkover survey to be included within the ES.

		<p>methodology and reference to standard intertidal survey methodologies that were adhered to.</p> <p>In addition to the walkover survey, we advise that intertidal Phase I and Phase II surveys should be undertaken to further inform the benthic characterisation of the Study Area. Detailed analysis of these results should be included in the PEIR and ES.</p>	<p>NE advise that the Applicant undertakes further intertidal habitat surveys to inform the benthic characterisation of the Study Area. These surveys should follow best practise guidance as set out in Phase I Best Practice Advice for Baseline Characterisation Surveys. We are aware this guidance was produced primarily for consideration in offshore wind assessments; however, it is equally applicable to the Mersey Tidal Power Project proposal.</p>
Volume 1, Chapter 6	6.6.21	<p>Information required on the use of the following report: Reference: Environment Agency, (2024). Ecology & Fish Data Explorer. Available online at: https://environment.data.gov.uk/ecology/explorer/ (Accessed: October 2024).</p>	<p>NE advises that further information should be provided on the subtidal habitats and species data used from the EA's report (EA, 2024). Details on the methodology such as; number and locations of sample stations should be included.</p>
Volume 1, Chapter 6	Table 6-13	<p>We note that the Applicant has not yet undertaken project-specific subtidal surveys. Table 6.13 outlines the Applicant's future proposals for subtidal surveys. In addition to the surveys proposed, we advise that the Applicant considers undertaking geophysical site-investigation surveys to investigate seabed bathymetry, underwater features and seabed type, as well as providing important data for other topics required for an EIA, such as for coastal processes and marine archaeology.</p>	<p>NE advises that the Applicant undertakes geophysical site-investigations to inform subtidal benthic characterisation of the Study Area. These should follow best practise guidance as set out in: Phase I Best Practice Advice for Baseline Characterisation Surveys.</p>
Volume 1, Chapter 6	6.11.6	<p>NE notes that increased litter in the marine environment resulting from the source of increased vessels within the Study Area has been scoped out of the assessment.</p>	<p>NE advises that litter should be scoped into the assessment for the ES.</p>
Volume 1, Chapter 6	Table 6-15	<p>Although it is noted that EMF has been scoped in for shellfish ecology, EMF has not been scoped in for its potential effect on benthic invertebrates such as polychaetes.</p> <p>Current literature highlights the risk of EMF on various marine invertebrate species:</p>	<p>NE advises that impact of EMF should be investigated further and placed in the worst-case scenarios as a conservative approach.</p>

		<p>(Chapman, E.C., Rochas, C.M., Piper, A.J., Vad, J. and Kazanidis, G., 2023. Effect of electromagnetic fields from renewable energy subsea power cables on righting reflex and physiological response of coastal invertebrates. <i>Marine Pollution Bulletin</i>, 193, p.115250.)</p> <p>(Jakubowska, M., Urban-Malinga, B., Otremba, Z. and Andrulewicz, E., 2019. Effect of low frequency electromagnetic field on the behaviour and bioenergetics of the polychaete <i>Hediste diversicolor</i>. <i>Marine environmental research</i>, 150, p.104766.)</p>	
Volume 1, Chapter 6	Table 6.15	Artificial structures placed the seabed (i.e. cofferdams, scour/cable protection) in the marine environment could promote the colonisation of hard structures.	NE advises that the colonisation of hard structures is scoped into the assessment at the PEIR and ES stages.
Volume 1, Chapter 6	Table 6.15	It is unclear what seabed preparation activities will be required for the Project. If dredging or seabed levelling is required prior to construction, we advise that additional impacts to benthic ecology will need to be considered and scoped into the assessment. NE reserve the right to make future detailed comments once further information is known, this could include scoping in of additional impacts.	<p>To note.</p> <p>NE would welcome further discussion around seabed preparation activities, and associated impacts, through the Evidence Plan process via the EWG.</p>
Volume 1, Chapter 6	Table 6-15	Operation of and removal of tidal barrage: Long term water flow pathways should also consider habitat loss rather than just disturbance and displacement.	NE advises that the long-term water flow pathway should be updated in the ES to include habitat loss.
Volume 3 Appendix 3.3	Table 4-1	Designated sites considered under benthic ecology should also include SPAs, which have benthic habitats designated as supporting habitats for bird features.	NE advises that SPAs which have benthic habitats designated as supporting habitats for bird features should be scoped in for assessment in the ES, namely; Mersey Estuary SPA, Dee Estuary SPA, Liverpool Bay SPA, Ribble & Alt Estuaries SPA and Mersey Narrows & North Wirral Foreshore SPA.
Volume 3 Appendix 3.3	Table 5-2	There is no assessment of the likelihood of decreases in suspended sediment levels.	NE advises that an assessment is included for worst case scenario for decreased suspended sediment levels
Volume 3	Table 5-2	Although identified as a potential LSE in Volume 1, Chapter 6	NE advises that an assessment is included of

Appendix 3.3		(Table 6-15), there is no assessment of the impact of artificial lighting or introduction of shading from the barrage structure on plankton and the behaviour of benthic invertebrate populations and communities during all phases of the project within the HRA.	the impact of artificial lighting and introduction of shading from the barrage structure
Volume 3 Appendix 3.3	6.1.23	NE notes that dredging activities having an in-combination effect has been scoped out of the assessment.	NE advises a cumulative assessment of maintenance dredging should be included within the ES.
Volume 3 Appendix 3.3	Table 6-13	Further discussion on the intertidal survey objectives is needed before the scoping study is agreed. This section does not contain enough detail for comment at this stage.	NE advises that further survey requirements can be worked out and discussed through expert working groups.
Volume 3 Appendix 3.3	6.6.25	It is noted that there is a presence of <i>Sabellaria aveolata</i> within the Mersey. Future surveys should include characterisation surveys to establish the presence and extent of this Annex I species and associated biotope to ensure it is avoided where possible.	NE advises that further surveys to identify the location of <i>Sabellaria aveolata</i> reefs should be carried out. Where sensitive features are encountered, additional DDV or high-resolution photograph stills data should be collected to characterise the feature and its extent.
Volume 3 Appendix 3.3	Table 5-8	Whilst the SPA's have not been considered in the EIA scoping report for benthic ecology (please see above comment re: SPA inclusion), they have been considered for intertidal ornithology and determined only temporary habitat loss during the decommissioning phase. This contradicts the report "Volume 1, paragraph 2.8.2" that states: " <i>Any below ground structures will be left in-situ, including piles, pipework, and cables, which could lead to a permanent habitat loss. In addition, it is stated that: "It is anticipated that the breakwaters will remain in situ and erode over time as per natural processes"</i> , yet there is no evidence to support this, nor a time scale proposed for this erosion.	NE advises that justification and anticipated life expectancy is provided for breakwaters and their erosion. In addition, please provide further information on the amount and location of any infrastructure to be left <i>in situ</i> post decommissioning and scope this into assessment where applicable.

3.5 Marine Mammals

Section	Paragraph/ Table	Comment	Recommendations
Volume 1: Chapter 8	8.5.31 & Table 8 -10	NE notes that SSSI's for seals have not been included within this section. There are more designated sites with potential connectivity to the study area than have been presented in this table i.e. West Wales Marine SAC	NE advises that the assessment in the ES fully considers SSSIs for seals and scopes in the relevant sites where necessary.
Volume 1: Chapter 8	8.6.2	NE recommends that acoustic monitoring (i.e. via the use of F-PODs and/or broadband acoustic recorders) is added back into the survey design. Acoustic monitoring will collect important data on species that are missed during the visual vantage point surveys and would allow for data collection outside of these times as the devices can be left to record passively for months at a time. Having both visual and acoustic data will help to support the baseline.	NE advises that acoustic monitoring is included within the survey design.
Volume 1: Chapter 8	8.6.2	Without the addition of further acoustic monitoring or boat-based surveys, the vantage point locations do not cover the full breadth of the scoping area. NE recommends more are added e.g. vantage points at the furthest point upriver would allow for a better understanding of how far marine mammals go upstream. Whilst additional locations could be further land-based vantage points, the project would benefit from having acoustic monitoring locations also, as previously discussed (see comment above).	NE advises that additional vantage/monitoring points are considered within the scoping area.
Volume 1: Chapter 8	Table 8-11	NE strongly supports the inclusion of mitigation measures for barrier effects and collision risk within the MMMP. NE advise including details of any emergency procedures/management that will be in place during the operational phase i.e. in the event marine mammals become trapped within the river and can't get through the barrage back to the sea. The potential for fish passages is mentioned within the report but NE would be interested to know if these are also being considered for marine mammals given the potential barrier effects of this construction. Alternatively, this information could be included in separate plans to the MMMP i.e. a separate collision mitigation plan/emergency operational	NE advises that mitigation measures are included for barrier effects and collision risk within MMMP or create separate plans/protocols for these impacts.

		procedure plan.	
Volume 1: Chapter 8	Table 8-12	If there is a possibility that UXO clearance will be needed during the project construction, then this should be scoped in.	NE advises that UXO clearance should be scoped in for assessment as appropriate.
Volume 1: Chapter 8	Table 8-12	Disturbance to seal haul out sites should be factored into any assessments considering the impacts of vessel movements and construction and the noise and vibration pathways.	NE advises that disturbance to seal haul out sites is included in the ES.
Volume 1: Chapter 8	Table 8-12	Information required in table columns.	Underwater noise modelling and collision risk modelling should be added to all relevant 'Data collection and analysis to characterise baseline' columns not just for Vessel movements.
Volume 1: Chapter 8	8.11	NE supports the inclusion of underwater noise modelling (for construction and operation) and collision risk modelling, to inform the appropriate monitoring and mitigation required. NE also support iPCoD, as outlined by King <i>et al.</i> (2015), as a tool for assessing population level impacts for disturbance and it should be used alongside other methods in the ES. King, S. L., Schick, R. S., Donovan, C., Booth, C. G., Burgman, M., Thomas, L., et al. (2015). An interim framework for assessing the population consequences of disturbance. <i>Methods in Ecology and Evolution</i> , 6(10), 1150e1158. https://dx.doi.org/10.1111/2041-210X.12411	No action.
Volume 1: Chapter 8	8.11.2	There should be a method in place for detecting collisions if they occur. It is important that the project can understand the number of collisions they are experiencing to validate any collision risk modelling and adjust management/mitigation accordingly. This could be a good opportunity to test novel technologies. NE request to be updated on any emerging technology that could be used this way.	NE advises that information is provided on how collisions will be detected in the ES.
Volume 1: Chapter 12	12.5.6	Noise propagation modelling to estimate impacts during the operational phase should also be undertaken.	NE advises that noise propagation modelling for operational phase is provided in the ES.
Volume 3 Appendix 3.3	Table 4-4	The distances (km) of the project to SACs in this table, are different from the distances included in Table 8-10 of Volume 1: Chapter 8.	NE advises that the correct distances are provided in both tables in the ES.

3.6 Fish and Shellfish

Section	Paragraph/ Table	Comment	Recommendations
Volume 3, Appendix 3 HRA	Table 5.3	With regard to potential impact pathways, the Applicant has used “N/A” for both the construction and decommissioning under “Barriers to species movement”. Activities involved in the construction and decommissioning phase that lead to changes in suspended sediments, underwater noise, and increased artificial light emissions can act as non-physical barriers to species movements and migration.	NE advises incorporating the effects listed for impact pathways “changes in suspended solids (water quality)”, “increased underwater noise and vibration levels” and “increased artificial light emissions” accordingly for both construction and phase under “barriers to species movement”. An option that would be welcomed is splitting barriers to migration into physical/ permanent barriers and non-physical/temporary barriers to migration.
Volume 1	2.11.4 & 10.11.0- 10.11.5	NE welcomes discussion with regard to turbine design and operation as a means of minimising direct and indirect mortality of migratory fish species.	NE advise that a discussion should be held, through the EWG process, around dedicated fish passage options as well as exploring options using the hydro control structure sluices.
Volume 2a	Figures 10.2 & 10.3	NE note overlap with the study area boundary and high presence of nursery grounds for commercial species such as sandeel and herring. These species are important sources of food for bird features designated within the Liverpool Bay SPA.	NE welcomes further assessment and detail relating to potential impacts and losses of these species due to tidal barrier development and impacts upon bird features.
Volume 1 Chapter 10	Table 10.12	NE advise that the proposed survey frequency and intensity would not provide sufficient resolution and or abundance data required to characterise many of the key species present within the Mersey (e.g. Diadromous fish, pelagic species (Herring, sprat etc.) and demersal/ benthic species (sandeel)) and welcome further collaborative input towards survey methods and plans.	NE welcomes further inclusion in discussions relating to proposed surveys.

3.7 Intertidal and Onshore Ornithology

Section	Paragraph/T able	Comment	Recommendations
Volume 3 Appendix 3.3 & Volume 1, Chapter 9	Table 5-7 & Table 9-16	NE notes that presence of people is not listed as part of visual disturbance for potential impact pathways.	NE advises that the presence of people (workers/ maintenance staff/ cyclists/ walkers etc) is included as an impact pathway for assessment in the ES and HRA.
Volume 1 Chapter 2.4	2.4.24	NE notes that the tidal barrage will include a Marine Navigational System which will include a combination of locks located on one side of the structure or on both sides. This implies that shipping traffic could be moved from the centre of the estuary to the sides and could lead to increased disturbance to intertidal birds. We strongly advise that increased disturbance from vessels (i.e. visual disturbance, displacement, noise, wake) is fully considered within the PEIR and ES.	NE advises that impacts from the proposed Marine Navigational System on intertidal birds should fully be assessed within the ES.
Volume 1, Chapter 9	9.3.3	The survey work should encompass Functionally Linked Land (FLL) that is within at least 2 km of the development, including the grid connection route. FLL could be especially important considering the birds that may be displaced during the construction phase or that may be forced to forage elsewhere if there is reduced intertidal mud exposed during the operational phase. Areas within the Impact Risk Zone should be considered. There are many onshore FLL roost sites across the Wirral Peninsula. NECR173 edition 1 – Annex 3: Roost locations at sector level can be accessed from https://publications.naturalengland.org.uk/publication/4713137133584384 . The Merseyside docks also provide FLL for bird species.	NE advises that the ES should include full consideration of impacts on FLL. Additional consideration to any indirect impacts on the docks across Merseyside should be considered as these provide FLL to SPA birds.
Volume 1, Chapter 9	Table 9-11/ 9-12/ 9-13	From the bird data that has been presented, it is not clear where the birds are being recorded.	NE advises that detailed information for the bird survey data, such as the key locations that records relate to, should be provided as part of an Annex to the ES. Visual aids such as maps will help to present the data and provide clarity.
Volume 1, Chapter 9	9.6.35	Regardless of whether a species is a qualifying feature of an SPA/Ramsar or not, we advise that it is still important to consider species of conservation concern within the ES.	NE advises that the impact of the proposal on breeding birds of conservation concern such as are assessed within the ES. This is

			especially important along the grid connection route.
Volume 1, Chapter 9	9.6.37	The Applicant states that grey plover, ringed plover, sanderling and dunlin were recorded but they are not thought to be connected to the Study Area. We seek further justification on this matter.	NE advises that demonstration of no connectivity between grey plover, ringed plover, sanderling and dunlin and the Study Area should be provided within the ES.
Volume 1, Chapter 9	9.7.3	NE advises that nocturnal surveys should also be undertaken as species forage differently at night than during the day. Helpful references include: <ul style="list-style-type: none"> 1) Gillings, S., Fuller, R.J. and Sutherland, W.J. (2005), Diurnal studies do not predict nocturnal habitat choice and site selection of European Golden Plover (<i>Pluvialis apricaria</i>) and Northern Lapwings (<i>Vanellus vanellus</i>). <i>The Auk</i>, 122(4): 1249-1260. 2) Jourdan, C., Fort, J., Pinaud, D., Delaporte, P., Hérault, T., Jankovic, M., Jomat, L., Lachaussee, N., Pineau, P., Rousseau, P. and Bocher, P. (2022), Daytime, tidal amplitude and protected areas influence movements and habitat use on mudflats of wintering black-tailed godwits. <i>Estuarine, Coastal and Shelf Science</i>. 268 	NE advises that nocturnal surveys should also be undertaken for ornithological features. Precautionary and worse-case scenario must be adopted in the absence of survey data.
Volume 1, Chapter 9	9.7.4.	The absence of tagging work means that it is very difficult to know how birds are using all of the SPAs in the region and where any displaced birds might go to, or how birds in other SPAs are reliant on the survey area	NE advises that precautionary and worse-case scenario must be adopted in the absence of informative data.
Volume 1, Chapter 9	Table 9-16	Construction is to take 10 years which is several times the lifespan of some waders. Therefore, the impact on them will be permanent.	NE advise that 'Temporary' construction work may not have a temporary impact if it occurs over a sustained period. This is important to differentiate. NE advises that this level of impact should be accurately assessed in the HRA.
Volume 1, Chapter 9	Table 9-16 Presence of above water infrastructure	It is stated that birds can collide with static above ground infrastructure, and they are known to fly over water when moving between feeding and roosting sites yet this has been scoped out. In addition, if there are overhead powerlines/ cranes or tall structures associated with the project this needs assessing also as over wintering flocks of waders will move and form murmurations throughout the study area (and the Wirral	NE advises that the presence of above water infrastructure should be scoped in.

		peninsula).	
Volume 1, Chapter 9	Table 9-16 Maintenance vehicles, vessels and plant and artificial light	As the project will be introducing noise from maintenance activities, that will be in addition to what already exists at the site, there is potential for this noise to impact birds.	NE advises that above water noise from maintenance vehicles, vessels and plant and artificial light, during the maintenance phase, should be scoped in.
Volume 1, Chapter 9	Table 9-16 Release of contaminants	There is potential for contaminants to be released from disturbed bottom sediments and impacting intertidal habitats, a supporting habitat for birds. Therefore, this impact pathway should be scoped in.	NE advises that impacts associated with contaminants is scoped into the ES (and HRA).
Volume 1, Chapter 9	Table 9-16 Construction of tidal barrage, temporary construction compounds, access route	Any changes to tidal exposure should be assessed as exposed sediment is of critical importance to birds	NE advises that tidal exposure is scoped into the assessment.
Volume 1, Chapter 9	9.12.2	Direct habitat loss <i>and displacement</i> .	NE advises that displacement from the area around the barrage, and any associated above ground works associated with the barrage, is included in the ES, along with grid linkage where relevant. This is also applicable to the operational phase.
Volume 1, Chapter 9	9.14.1	'near-field' effects	NE request that clarity is provided on what is meant by 'near-field'.

3.8 Offshore Ornithology

Section	Paragraph/ Table	Comment	Recommendations
Volume 1, Chapter 2	Vol. 1 2.5.13 General	NE notes that the Applicant intends for the “construction phase to be predominantly within the marine environment, including delivery of large equipment and materials to the working area”. The impacts of construction and delivery of materials should be carried out in the least impactful way to the protected sites. This includes reducing disturbance and displacement to birds from increased vessel traffic.	NE advises that the assessment within the ES presents the maximum design scenario for the construction and delivery of materials to the site. However, following the mitigation hierarchy, methods of delivery should be carried out in the least impactful way to designated sites.
Volume 1, Chapter 9	General	NE and JNCC produced a joint interim advice note on displacement in 2022. This can be accessed from Joint SNCB Interim Displacement Advice Note JNCC Resource Hub . The advice note details the best-practice approach to assessing displacement impacts to seabird populations. Although the note focuses on Offshore Wind Farm developments, the advice is relevant to the MTPP. The advice note considers the recent evidence of red-throated diver displacement which is especially important for Liverpool Bay SPA.	NE advise that the Applicant should consider and reference the joint interim displacement advice note and follow the best-practice guidance in assessing displacement impacts on ornithological features.
Volume 1, Chapter 9.6		Tracking studies should be used where available to evidence connectivity, or lack thereof. Specific tracking studies should also be used to aid screening where possible.	NE advises that, where possible, bird tracking studies are used as part of the evidence base used in screening of sites and features.
Volume 3, Annex 3.3	Para 6.1.11 – 6.1.16	In-combination assessment – we advise that Burbo Bank Extension should be scoped in as there are likely associated O&M activities. We also advise that the planned Round 4 offshore wind farms should be included (Mona Project, Morgan Generation Assets Project, Morgan and Morecambe Transmission Assets Project). The construction and operation of proposed offshore wind farms could coincide with the proposed MTPP development.	NE advise that the Applicant considers Burbo Bank Extension and Round 4 projects for consideration in the in-combination assessment.



**Cyfoeth
Naturiol
Cymru
Natural
Resources
Wales**

Ein cyf/Our Ref: ANE-24315-0001
Eich cyf/Your Ref: EN0110006

Ebost/Email: marine.area.advice@cyfoethnaturiolcymru.gov.uk

Environmental Services
Operations Group 3
Temple Quay House
2 The Square
Bristol, BS1 6PN

merseytidal@planninginspectorate.gov.uk

Annwyl / Dear Claire Deery,

Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11

EIA Scoping Opinion consultation regarding application by Mersey Tidal Power Project for an Order granting Development Consent for the Mersey Tidal Power Project (the Proposed Development)

Cyfoeth Naturiol Cymru / Natural Resources Wales (NRW) Advisory (A) has reviewed the information provided in the Environmental Scoping Report:

- EN0110006-000004-EN0110006 - Scoping Report Volume 1
- EN0110006-000005-EN0110006 – Scoping Report Volume 2 Figures Chapters 1-8
- EN0110006-000006-EN0110006 – Scoping Report Volume 2 Figures Chapters 9-13
- EN0110006-000007-EN0110006 – Scoping Report Volume 3 Appendices
- EN0110006-000008-EN0110006 – Scoping Report Volume 2 Figures Chapters 16-27

NRW (A) comments provided in this response focus on those matters that we consider need to be taken into account and applied to the Environmental Impact Assessment (EIA) and the resulting Environmental Statement (ES).

With respect to the advice contained within this document relating to nature conservation within Welsh inshore waters, reference to Welsh Offshore waters and English Onshore / Offshore waters may be made in view of mobile species and potential transboundary and cumulative impacts on the Welsh inshore marine area and protected sites. Where potential impacts are wholly within Welsh offshore waters or English Onshore / Offshore waters, NRW (A) defer to comments provided by JNCC and Natural England respectively.

Please note that the comments provided herein are made without prejudice to any (further) advice NRW may need to give, or decisions NRW may need to take, in a project specific context should different circumstances or new information emerge that NRW will need to take

into account. Detailed comments have been made under the relevant sections within the attached annex. The key areas that need addressing are summarised as follows:

- From a Physical Processes perspective, NRW (A), suggests extending the physical processes study area to include the entire North Wales coastline and the Dee Estuary. NRW (A) advise that some potential impact pathways need to be refined further and/or scoped in namely, tidal range and marine sediment removal and disposal. NRW (A) requests inclusion in future consultations and discussions regarding physical processes assessments and hydrodynamic modelling.
- In terms of Marine Fish and Shellfish, NRW (A) had provided detailed comments regarding recommendations to expand the scope of assessments, data gaps and methodologies for survey, data collection and assessment. NRW (A) would welcome opportunity to provide input on the matters mentioned and be included in information requests for Dee Estuary Cockle Fishery.
- Regarding Marine Ornithology, NRW (A) advise inclusion of bird species listed in Section 7 of the Environment (Wales) Act 2016 and several Welsh designated sites. Any changes in physical processes that could affect Welsh birds should be included and consider the entire North Wales coast.
- From a Marine Mammal perspective, NRW (A) emphasizes that the appropriate scale for assessing offsite impacts on marine mammals should be based on species-specific Marine Mammal Management Units (MMUs). Additional sites should be screened in for grey seal assessments namely Pen Llŷn a'r Sarnau Special Area of Conservation (SAC). NRW (A) recommends using underwater noise modelling for impact assessments instead of Effective Deterrent Ranges (EDRs). NRW (A) calls for the inclusion of more recent offshore wind projects from the wider Liverpool Bay and Irish Sea region in the assessment.
- NRW (A) defer to Natural England on scoping of turtles (leatherback).
- NRW (A) defer to Natural England for comments on Benthic habitats.
- NRW (A) defer to Natural England for comments on Water Quality.
- NRW (A) relies on data from the Class A gauge at Liverpool for flood alerts along the River Dee estuary and the North Wales coast and advise this be scoped in. NRW (A) defer to the Environment Agency to provide additional advice as any flood risk impacts will primarily impact England.

Please do not hesitate to contact us if you require further information or clarification on any of the above.

Yn gywir / Yours sincerely,

Katie Reynolds

Uwch Gyngorydd Morol – Tîm Cyngor a Rheoli Ardal Forol
Senior Marine Advisor – Marine Area Advice Team

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1 General Comments

- 1 NRW Advisory (A) welcome the information provided within the Mersey Tidal Power Project EIA Scoping Report and the way it has been presented.
- 2 Please note that NRW (A) defer to Natural England for comments on Benthic habitats.
- 3 Please note that NRW (A) defer to Natural England for comments on Water Quality.

2 Physical Processes

Key Comments

- 4 **Key Issue 1:** NRW (A) advise extending the physical processes study area to include the entire North Wales coastline and the Dee Estuary.
- 5 **Key Issue 2:** NRW (A) requests inclusion in future consultations and discussions regarding physical processes assessments and hydrodynamic modelling.
- 6 **Key Issue 3:** NRW (A) advise that some potential impact pathways need to be refined further and/or scoped in.

Detailed Comments

Chapter 5 Physical Processes

- 7 Figure 5.1 'Coastal Processes Study Areas' and Section 5.3 'Study Area' - The preliminary physical processes study area includes the Dee Estuary and only a partial amount of the North Wales coastline up to Kinmel Bay. NRW (A) request that the physical processes study area is extended to cover the whole of the North Wales coastline as well as the Dee Estuary at this stage, until further hydrodynamic modelling has been carried out to determine the far field effects to the hydrodynamics (i.e. alteration to water levels (tidal amplitude) and tidal phasing), as well as an impact on the intertidal zone area in the far field caused by the impoundment of a large body of water in the Mersey Estuary. **Key Issue 1.**
- 8 Section 5.4 'Consultation'- With respect to the physical processes assessment and future modelling work, NRW (A) request that they are included in the stakeholder engagement and discussions. **Key Issue 2.**
- 9 Table 5.17 'Likely significant hydrodynamic, coastal processes and water and sediment quality effects' - NRW (A) advise that changes to tidal range and its effect on habitats and species is included in the assessment for the near field and far field zones of influence. **Key Issue 3.**
- 10 Paragraph 5.10.9 'Impacts Scoped out of Assessment' - NRW (A) request that the potential effects from the marine disposal of sediment is scoped into the EIA. It is anticipated that between 7,000,000 to 20,000,000m³ of material could be removed (dependent on confirmed location of the tidal barrage) within the marine working area (Paragraph 2.5.22) and that a proportion of material will be disposed of within a marine

disposal facility either under control by the Applicant or a third party marine disposal area under agreement. It is unclear at this stage where the sediment will be disposed of and whether the chosen disposal site would have the capacity to cope with the amount of disposal. **Key Issue 3.**

3 Fish and Shellfish

Key Comments

- 11 **Key Issue 1:** NRW (A) advise that the spatial scope of the Environmental Impact Assessment (EIA), Habitat Regulations Assessment (HRA), and Water Framework Directive (WFD) assessment for diadromous and marine/estuarine fish species is widened.
- 12 **Key Issue 2:** NRW (A) advise that the proposed fish surveys will not provide the required data and information to inform the EIA, HRA and WFD assessment, and that the link between the surveys and the data provided for the assessment is not clear or justified.
- 13 **Key Issue 3:** NRW (A) advise that there is a significant data gap on the use of the Mersey Estuary by diadromous fish species (e.g. salmonids, lampreys, eels, smelt) from other rivers, such as the Dee and Clwyd, and that this data gap will not be filled by the proposed fish surveys or other data collection.
- 14 **Key Issue 4:** NRW (A) advise that further work is needed to scope the assessment for diadromous and marine/estuarine fish in detail, including species selection, assignment of species value and sensitivity, and impact modelling such as for turbine encounter/injury and underwater noise.
- 15 **Key Issue 5:** NRW (A) welcome the proposal for an Evidence Plan process to develop the evidence and assessment required, and would welcome the opportunity to provide input towards addressing the matters raised in our response.
- 16 Reference is made to an information request to the NW IFCA for the catch statistics from the commercial cockle and mussel fisheries to inform the EIA assessment (Paragraph 10.7.3 'Further Data Collection'). Agreements are also intended to be put in place to access additional data sets as part of the ongoing EIA process. NRW (A) advise that NRW is included in this information request to provide catch statistics for the Dee Estuary Cockle Fishery.

Detailed Comments

Chapter 2 Site Context and Project Description

- 17 Paragraphs 2.3.13 - 2.3.15 'North West Marine Plan'- NRW (A) advise that the Welsh National Marine Plan is considered as it has not been mentioned in this section.
- 18 Paragraphs 2.3.21 - 2.3.22 'Additional Designated Sites'- NRW (A) advise that the River Dee and Bala Lake Special Areas of Conservation (SAC) is also of relevance as the site has mobile fish features (Atlantic salmon, river lamprey and sea lamprey) which move outside of the site and potentially into the Mersey Estuary during marine residency and migratory phases. Diadromous fish from other rivers and protected sites along the North

Wales coast may also spend time in the Mersey Estuary but the extent of this is unknown at present. **Key Issue 1.**

- 19 Paragraphs 2.4.11 - 2.4.19 'Power Generation Systems' – NRW (A) advise that it is confirmed whether there will be wicket gates at either or both ends of the turbines, as there is the potential for wicket gate strike to be an impact to fish during turbine passage. **Key Issue 4.**
- 20 Paragraph 2.5.8 'Construction Of Hydro Control System & Power Generation System' - NRW (A) advise that the current proposal appears to have an option to block the entire Mersey Estuary and river system during construction with a cofferdam. NRW (A) advise that use of a phased cofferdam across the channel to avoid full barrier during construction is considered. **Key Issue 4.**
- 21 Paragraph 2.11.4 'Fish Passage' - No dedicated fish passage proposals are currently included in the design. NRW (A) advise further discussion is help around dedicated fish passage options as well as exploring options using the hydro control structure sluices. **Key Issue 4.**

Chapter 3 Approach to EIA

- 22 Paragraphs 3.5.21 - 3.5.26 'Spatial Scope (Marine Ecology Aspects)' - NRW (A) advise that a more regional spatial scope is applied for fish receptors given the potential for the project to affect species which are part of Irish Sea (or wider) populations, and to affect migrating fish from other rivers/estuaries which are present in the Mersey Estuary. **Key Issue 1.**
- 23 Paragraph 3.10.3 'Structure and Scope of the PEIR And ES' and Table 3-5 'Topics to be Scoped Out' - NRW (A) advise that the potential for artificial lighting to impact fish behaviour, either during construction or lighting of the completed structure, should be scoped into the assessment. **Key Issue 4.**

Chapter 10 Fish and Shellfish

- 24 Section 10.2 'Technical Guidance' - NRW (A) advise that the following guidance is considered during project development: [GN060 Information to support Environmental Assessment of tidal lagoon developments in Wales \(naturalresources.wales\)](https://naturalresources.wales/gn060). **Key Issue 4.**
- 25 Paragraph 10.3.1 'Study Area' - NRW (A) advise that the arbitrary 40km distance is insufficient for use as a study area/Zone of Influence for diadromous fish, or for other seasonally migratory marine species, which spend time in the Mersey Estuary. NRW (A) advise that the study area and/or zone of influence for relevant fish species is reviewed and set on a species-specific basis considering the migratory behaviours and population ranges of the species. **Key Issue 1.**
- 26 Table 10-3 'Consultation Comments' - NRW (A) advise that installation of a camera trap at Woolston Weir will not provide data on fish which are present in the Mersey Estuary

but then move into other estuarine or river systems such as lampreys, salmonids and marine/estuarine yellow eels. NRW (A) note in the reply to comments from the Environment Agency on eel/elver surveys that these are included in the characterisation surveys. However, aside from confirming presence, NRW (A) advise that the quarterly surveys will not have sufficient resolution to capture use of the estuary by eels/elvers, as either a migration route or as feeding/residency habitat. **Key Issue 3.**

- 27 Table 10-4 'Value criteria for fish and shellfish receptors' - NRW (A) advise that many species could be assigned to multiple value categories as specified, but NRW (A) assume the higher of those would be chosen for each species. NRW (A) would welcome the opportunity to comment on the valuation of the various species in the EIA process. For example, NRW (A) advise that European eel would be of high value, as using the criteria within Table it is not clear what the species would be classified as; it is 'Critically Endangered... on IUCN Red list' i.e. Medium, but also a "Species protected under international law" through the Eel Recovery Plan (Council Regulation No 1100/2007) i.e. High. **Key Issue 4.**
- 28 Table 10-5 'Sensitivity criteria for fish and shellfish receptors' - NRW (A) advise that it is clarified how Value and Sensitivity criteria will interact in the process. For example, for a receptor of national value but which cannot or has very low capacity of avoid, adapt or tolerate the impact, would this have a "High" or "Medium" sensitivity and how would this be decided? NRW (A) advise that the reference to 'value' is removed from the table as Value is scored in Table 10-4 creating confusion. NRW (A) advise that a matrix should be applied to determine overall importance of the receptor. **Key Issue 4.**
- 29 Tables 10-5 and 10-6 'Magnitude of impact criteria for fish and shellfish' - NRW (A) advise that the criteria for magnitude of impact would be influenced by the sensitivity of the receptor, so it is not appropriate for sensitivity to be used in both the definition of 'value/sensitivity' and 'magnitude of impact' for relevant receptors. NRW (A) advise that 'consequence' is removed from the table as it requires a high level of judgement and will depend on factors scored in other tables, such as the receptor's ability to recover. **Key Issue 4.**
- 30 Paragraph 10.5.9 'Significance of Effect'- NRW (A) advise that the term 'slight' does not appear in Table 10-7, so it is not clear what this means in terms of EIA significance. **Key Issue 4.**
- 31 Table 10-7 'Significance of effect criteria for the fish and shellfish assessment' - NRW (A) advise that in the full assessment, where significance level straddles two categories, e.g. 'Major or Moderate', a full justification for the application of either is provided. Overall, the use of multiple significance criteria in each 'outcome' box of the matrix assessment is not helpful to the clarity and auditability of the assessment process. NRW (A) advise that single significance criteria are provided as the outcome of the matrix assessment process, or that an alternative to the matrix assessment process is used. **Key Issue 4.**

- 32 Table 10-8 'Key sources of fish and shellfish data'- NRW (A) advise that the following datasets are considered during project development:
- [Natural Resources Wales / Marine ecology datasets for marine developments](#);
 - Fish surveys of the inner and outer Dee Estuary conducted for Project Flagstaff by Port of Mostyn;
 - eDNA data for the Dee Estuary collected by Bangor University;
 - NRW Forage fish report by Cefas (Campanella and van der Kooij, 2021) which updates Coull et al. (1998) and Ellis et al. (2012) for several species. [CP017-04-F5 Cefas Report Template \(birdwatchireland.ie\)](#); <https://data.cefas.co.uk/view/21465>;
 - Salmon and sea trout fisheries statistics - [Salmon Stocks and Fisheries in England and Wales 2023 \(publishing.service.gov.uk\)](#);
 - Eel management plan reporting - [Implementation of UK Eel Management Plans \(2017 to 2020\) - GOV.UK \(www.gov.uk\)](#);
 - Natural England fish population range setting process IEG report – in preparation
 - NRW tidal lagoon fish modelling report – in preparation;
 - Datasets and reports prepared for the Severn Tidal Power study and the Swansea Bay Tidal Lagoon.
- Key Issue 4.**
- 33 Paragraph 10.6.7 'Marine and Estuarine' - NRW (A) advise that many of the species mentioned in this paragraph will also spend time in the wider Liverpool Bay and Irish Sea areas, and in Welsh marine and estuarine waters, given their population/home ranges. Therefore, effects on these species from the project will affect Welsh waters/"Welsh" populations. Many of these species are also included on Section 7 of the Environment (Wales) Act 2016 as of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales. The importance of the Mersey Estuary to these populations is unclear. **Key Issue 4.**
- 34 Paragraph 10.6.9 'Elasmobranchs' - NRW (A) advise that many of the species mentioned in this paragraph will also spend time in the wider Liverpool Bay and Irish Sea areas, and in Welsh marine and estuarine waters, given their population/home ranges. Therefore, effects on these species from the project will affect Welsh waters/"Welsh" populations. Many of these species are also included on Section 7 of the Environment (Wales) Act 2016 as of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales. The importance of the Mersey Estuary to these populations is unclear. **Key Issue 4.**
- 35 Paragraph 10.6.11 'Diadromous' - NRW (A) advise that all species mentioned in this paragraph will also spend time in the wider Liverpool Bay and Irish Sea areas, and in Welsh marine and estuarine waters, given their population/home ranges. Therefore, effects on these species from the project will affect Welsh waters/"Welsh" populations. Many of these species are also included on Section 7 of the Environment (Wales) Act 2016 as of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales. The importance of the Mersey Estuary to these populations is unclear. **Key Issue 4.**

- 36 Paragraph 10.6.11 – NRW (A) advise that the only known local spawning population of European smelt is in the Dee Estuary, and that there is another spawning population in the Conwy Estuary. River lamprey, sea lamprey and Atlantic salmon of the River Dee and Dee Estuary are Annex II SAC features. European eel and sea trout of the River Dee and Dee Estuary will also spend time in the Mersey during marine residency/feeding phases. Connectivity between the Dee Estuary and Mersey Estuary for all these species is highly likely but the extent of connectivity and mixing is unknown and/or unquantified at present. **Key Issue 3.**
- 37 Paragraph 10.6.7-10.6.11 – NRW (A) advise that a full list of species present in the Mersey Estuary and their value/importance is drawn up to begin identifying those species which require assessment in more detail to ensure impacts on the whole fish community of the Mersey Estuary is understood. **Key Issue 4.**
- 38 Paragraph 10.6.14 ‘Diadromous’ - NRW (A) advise that the adult salmon and sea trout migration period is wider than September to November, and that adults are likely to pass through, or be present in the estuary all year around. Key salmon migration times are better reflected in Table 10-9. However, this table does not include Sea trout, which may be present all year around during marine/coastal residency and feeding phases and migration. **Key Issue 4.**
- 39 Paragraph 10.6.16 ‘Diadromous’ - NRW (A) advise that we are not aware of a viable spawning population of twaite shad or allis shad in the River Dee and Dee Estuary. **Key Issue 4.**
- 40 Table 10-9 ‘Diadromous species key sensitivity’ - NRW (A) advise that it is unclear whether the data that this table of migratory periods is based on is generic or specific to the River Dee and Dee Estuary. For example, glass eels/elvers are understood to run much earlier than shown (from January/February). Additionally, it should be clarified where in the estuary the data refers to, as migration time/residence time may vary. For instance, river lamprey may reside permanently/be present all year around in the estuary and coastal inshore waters. **Key Issue 4.**
- 41 Table 10-10 ‘Spawning periods for key species’ - NRW (A) advise that as well as showing spawning and nursery grounds, this table could usefully include seasonal periods when abundance of marine migrants in the Mersey Estuary will be higher, such as inshore migrations of sprat during the winter months. **Key Issue 4.**
- 42 Paragraph 10.6.25 ‘Conservation Importance’ - NRW (A) advise that this paragraph considers species included on Section 7 of the Environment (Wales) Act 2016 as of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales. **Key Issue 4.**
- 43 Table 10-12 ‘Surveys proposed for the characterisation of fish and shellfish baseline’ - NRW (A) advise that quarterly seine netting, fyke netting, beam trawling and ichthyoplankton sampling will not characterise the diadromous fish species present in

the Mersey Estuary. The proposed sampling will also be ineffective at characterising larger bodied demersal roundfish and elasmobranch species, given no otter trawling is proposed and only a small 1.5m beam trawl will be used. The proposed sampling will also not be representative for many of the key pelagic species such as herring, sprat, mackerel given no pelagic trawling and/or hydroacoustic surveys is proposed. The proposed sampling will also not be representative for species such as sandeels which require a dedicated survey strategy to effectively characterise given their diurnal and seasonal seabed burial traits. Finally, the survey frequency and intensity will also not provide sufficient resolution density and/or abundance data for the required impact modelling. **Key Issue 2.**

- 44 Table 10-12 – NRW (A) advise that opportunistic fin clips are insufficient to characterise the relevant species populations. We consider that a dedicated diadromous fish data collection programme is needed to inform the project. This could include genetic studies, telemetry studies, targeted capture surveys (such as trawling and/or netting), and should aim to characterise the amount of mixing between the Dee Estuary populations and the Mersey Estuary, the amount of straying of salmonids from the Dee into the Mersey, as well as marine movements of lampreys, eels, sea trout and smelt from the Dee Estuary into the Mersey Estuary. Additionally, NRW (A) advise that non-invasive procedures such as mucus swabs or scale sampling should be used in place of fin-clipping for genetic analysis. **Key Issue 2.**
- 45 Paragraph 10.7.4 ‘Further Data Collection’ - NRW (A) advise that the approach of having dedicated survey for sandeels will not provide sufficiently detailed data to inform impact modelling and assessment for these species. Plate 5.3 ‘Distribution of sediment types in the Mersey Estuary’ indicates the Mersey is mostly sand on the Folk triangle, which is suitable for sandeels. Figure 6.2 ‘Intertidal habitats within the Benthic Ecology and Plankton Study Area’ indicates large areas of intertidal sand and muddy sand just outside the Mersey Estuary, and Figure 6.3 ‘Intertidal habitats within the Benthic Ecology and Plankton Study Area (RSK, 2024)’ shows most of the subtidal habitat of the estuary to be yellow (but with no corresponding legend code). The area is also identified by Ellis et al. (2012) as a spawning area for sandeels, and by Campanella and Van der Kooij (2021) as a hotspot for sandeels in the waters just outside the Mersey Estuary. Therefore, the rationale for ruling out surveys based on limited presence appears to be flawed and not evidenced or justified. **Key Issue 2.**
- 46 Paragraph 10.7.6 ‘Further Data Allocation’ - NRW (A) advise that the survey season for elvers in the outer estuary should start earlier, as elvers may arrive as early as the end of January. **Key Issue 2.**
- 47 Paragraph 10.8.2 ‘Future Baseline’ - NRW (A) advise that changes in fisheries and fisheries management should be included in the future baseline. They have the potential to change the baseline, especially considering the ongoing development of Fisheries Management Plans. **Key Issue 4.**
- 48 Paragraph 10.10.6 ‘Project Design and Optimisation’ - NRW (A) note that in the project description no fish passage is included and question the rationale for this decision.

NRW (A) advise that relying solely on facilitating passage either through turbines or through sluices may not meet legislative requirements. **Key Issue 4.**

- 49 Paragraph 10.10.8 'Operation Measures' - NRW (A) advise that physical screening of the turbines is not mentioned as a potential mitigation option but should be included as an option to reduce impacts. **Key Issue 4.**
- 50 Table 10-14 'Likely significant fish and shellfish effects' - NRW (A) note that although changes to water quality due to presence and operation of the tidal barrage is included as a pathway, effects of increased mobilisation of contaminated sediments is not specified. **Key Issue 4.**
- 51 Paragraphs 10.11.0-10.11.5 'Receptor Specific Modelling' - NRW (A) advise that Hinkley Point C Nuclear Power Station and Pembroke Power Station have also done some of this type of modelling work which may be useful to review and refer to. **Key Issue 4.**
- 52 Paragraphs 10.11.0 - 10.11.5 - NRW (A) advise that the details of which modelling will be done is not specified, and we would welcome discussions around the modelling scope and methods to be used as the project develops. **Key Issue 4.**
- 53 Paragraph 10.11.1 - NRW (A) agree that for encounter risk modelling the size of the entrainment zone will depend on swimming ability of the fish, however many species utilise estuarine flows and in the absence of a behavioural cue, such as an acoustic fish deterrent, will swim with the flow and therefore not resist entering the entrainment zone and being entrained. **Key Issue 4.**
- 54 Paragraphs 10.11.0 - 10.11.5 - NRW (A) advise that there would be value in conducting a more holistic ecosystem-based assessment/model for the Mersey Estuary fish community given the numerous potential impacts that could occur to a whole range of species. Assessing species-by-species will only capture some of the potential changes that could occur due to the inter-connected nature of estuarine food web dynamics. NRW (A) also advise that it is explored whether learning from other existing stations (such as La Rance, Shiwa) in terms of impacts and ecosystem changes would be useful. **Key Issue 4.**
- 55 Paragraph 10.13.1 'Transboundary Effects' - NRW (A) advise that potential effects are not localised given the range of fish species that could be affected, so transboundary impacts are possible and could span in to Isle of Man and Irish waters, as well as Welsh waters. **Key Issue 4.**

Chapter 12 Underwater Noise and Vibration

- 56 NRW (A) advise that further engagement is welcomed on details of noise assessment and modelling and source levels. **Key Issue 4.**

Appendix 3.1 - Commitment register

- 57 NRW (A) advise that as OM8 Construction Noise Management Plan and OM9 Marine Mammal Mitigation Plan includes noisy activities and mitigation that are potentially relevant for fish, the fish chapter (Chapter 10 Fish and Shellfish) should be referenced in the chapter column. **Key Issue 4.**

Appendix 3.3 HRA Screening Report

- 58 Paragraph 4.2.7 'Sites Designated for Fish' - NRW (A) advise that there is a need to consider the potential for diadromous fish from SACs to move into the Mersey during marine residency or migrations and be at risk of entrainment/entrapment. **Key Issue 1.**
- 59 Table 4-2 'Sites designated for Migratory Fish features within the Zol and considered for HRA' - NRW (A) advise that the subtidal sediment communities (which include fish species that are part of the sediment community) of the Estuaries feature of the Dee Estuary SAC, have specific conservation objectives that should be considered ([Dee Estuary-Reg33-Volume 1-English-091209_1.pdf \(naturalresources.wales\)](#)). **Key Issue 4.**
- 60 Table 5-3 'Migratory fish features' - NRW (A) advise that barriers to migratory fish movements (such as temporal cofferdams, lighting, and underwater noise) during construction and decommissioning is included as a possible impact pathway. The pathways should be included in subsequent Tables 5-4 and 7-1. **Key Issue 4.**
- 61 Paragraph 5.3.2 'Determination of LSE for Fish' - NRW (A) advise that SACs with diadromous fish features are assessed on a 'nearest first' principle. This is a stepwise approach based on first assessing the nearest European site for a diadromous fish feature and progressing to sites further afield if the assessment cannot conclude no adverse effect. NRW (A) advise that diadromous fish features further afield than the River Dee and Bala lake / Afon Dyfrdwy a Llyn Tegid SAC may be required to be screened in for assessment. **Key Issue 1.**
- 62 Section 6 – NRW (A) advise that projects such as the proposed Flagstaff tidal lagoon, Mostyn Energy Park, and other offshore wind farms such as Awel y Mor, Morgan, Mona and Morecambe are included in the in-combination assessment. **Key Issue 4.**

Appendix 3.4 WFD Screening and Scoping Report

- 63 NRW (A) advise that this assessment has not considered the impact of the project on the Dee Estuary transitional water body, nor the river water bodies within the River Dee catchment. Consideration is necessary given the potential for the project to affect fish species from the Dee as identified in the EIA Scoping and HRA screening documents (including diadromous fish and marine/estuarine fish species) which could result in an impact to the fish quality element of the transitional water body and/or river water bodies. NRW (A) also advise that there is a potential to affect species in the Clwyd Estuary and River Clwyd also. Further information is available for these water bodies on [Water Watch Wales \(naturalresourceswales.gov.uk\)](#). **Key Issue 1.**

4 Marine Ornithology

Key Comments

- 64 **Key Issue 1:** NRW (A) advises that scoping should include bird species listed in Section 7 of the Environment (Wales) Act 2016 and several Welsh designated sites as described in the detailed comments.
- 65 **Key Issue 2:** NRW (A) advise that any changes in physical processes (temporary or permanent) and any resulting effects on Welsh birds, their habitats and prey should be assessed. NRW physical processes specialists have advised that the whole of the North Wales coast is in scope until further hydrodynamic modelling has been carried out. This advice applies to marine ornithology too, as effects on physical processes can have direct and indirect effects on birds, their habitats and prey resources.
- 66 **Key Issue 3:** NRW (A) advise that effects on birds should be considered both during construction and operation.

Detailed Comments

Chapter 9: Marine and Intertidal Ornithology

- 67 Although the location of the proposed works is in England, it has the potential to affect birds in Wales. Effects on bird species listed in Section 7 of the Environment (Wales) Act 2016 should therefore be assessed. **Key Issue 1.**
- 68 NRW (A) notes the location of the proposed development in relation to Liverpool Bay Special Protection Area (SPA) which NRW (A) advise should be in scope. Red-Throated Diver and Common Scoter are features of Liverpool Bay SPA, and Common Scoter are included as a priority species in Section 7 of the Environment (Wales) Act 2016. Both species are sensitive to anthropogenic disturbance and displacement – for example through changes in vessel traffic movement in or near Liverpool Bay SPA (Fliessbach 2019; Kaiser et al. 2002). Effects on Liverpool Bay SPA should be considered both during construction and operation. **Key Issue 1.**
- 69 NRW (A) notes that the proposed development is in close proximity to the Dee Estuary SPA, which should be in scope. NRW (A) advises that the following Welsh Sites should at this stage also be scoped in: Dee Estuary Sites of Special Scientific Interest (SSSI), Gronant Dunes and Talacre Warren SSSI, Inner Marsh Farm SSSI, and Shotton Lagoons and Reedbeds SSSI. **Key Issue 1.**
- 70 NRW (A) advise that any changes in physical processes (temporary or permanent) and any resulting effects on Welsh birds, their habitats and prey should be assessed. NRW physical processes specialists have advised that the whole of the North Wales coast is in scope until further hydrodynamic modelling has been carried out. This advice also applies to marine ornithology, as effects on physical processes can have direct and indirect effects on birds. Therefore, NRW (A) advise that all SPAs and SSSIs designated for marine and estuarine birds along the North Wales coast should be considered in scope on a precautionary basis at this stage. NRW (A) notes that the

applicant intends to carry out modelling exercises to assess the zone of influence of the proposed works and NRW (A) await the results. Depending on the results of the modelling exercise and the validity of its methods it may be possible to review the list of Welsh sites considered to be in scope once this has been reviewed. **Key Issue 2.**

71 NRW (A) advise that effects on birds should be considered both during construction and operation. **Key Issue 3.**

5 Marine Mammals and Turtles

Key Comments

72 **Key Issue 1:** NRW(A) generally consider that the appropriate scale at which to consider offsite impacts for marine mammals is the relevant species-specific Marine Mammal Management Unit (MMMU), and thus additional sites should be screened in for grey seal.

73 **Key Issue 2:** NRW(A) recommend underwater noise modelling be used to inform the assessment, rather than Effective Deterrent Ranges (EDRs).

74 **Key Issue 3:** NRW(A) recommend Pen Llŷn a'r Sarnau SAC is screened in for grey seal.

75 **Key Issue 4:** NRW(A) recommend more recent offshore wind projects in the wider Liverpool Bay / Irish sea region be included.

76 NRW(A) agree with the following points raised by Natural England with regards to marine mammals, and defer to them for impacts in English waters;

- SSSI's for seals have been omitted and should be scoped in (Chapter 8, 8.5.31),
- Use of F-PODs and/or broadband acoustic recorders should be included in the survey design (Chapter 8, 8.6.2),
- The described vantage point surveys will have limited ability to cover the scoping area, and additional points should be included (Chapter 8, 8.6.2),
- Designated sites have been omitted from the list identified with connectivity to the study area (Chapter 8, Table 8-10),
- The Marine Mammal Mitigation Protocol (MMMP) should include provision for accidental entrapment of marine mammals within the river or construction area (Chapter 8, Table 8-11),
- If there is a possibility that UXO clearance will be needed during the project construction, then this should be scoped in (Chapter 8, Table 8-12),
- Disturbance to seal haul out sites via noise from construction and vessel movement should be assessed (Chapter 8, Table 8-12),
- Underwater noise and collision risk modelling should be included against all relevant pathways (Chapter 8, Table 8-12),
- NRW(A) would welcome any further information on collision detection
- Underwater noise modelling should also be conducted for operational phases (Chapter 12, 12.5.6),
- The distances (km) of the project to SACs in Table 4-4 of appendix 3.3 are different from the distances included in Table 8-10 of Volume 1: Chapter 8. These should be corrected and unified across the documentation (Volume 3: Appendix 3.3 Chapter).

- 77 NRW (A) note that potential effects on marine turtle receptors have been scoped out from further assessment, due to the low likelihood of marine turtles occurring within the study area (10.11.7). NRW (A) defer to Natural England on scoping of turtles (leatherback).

Detailed Comments

Chapter 8 Marine Mammals

- 78 Paragraph 8.3.8 'Regional Study Area' - NRW (A) generally consider that the appropriate scale at which to consider offsite impacts for marine mammals is the relevant species-specific Marine Mammal Management Unit (MMMU) (NRW 2022). As acknowledged in paragraph 8.13.1 "*grey seals can travel large distances of up to 1,200km and have been recorded crossing the English Channel moving from France to haul-out sites in the south-west of the British Isles (Vincent et al., 2017).*" **Key Issue 1.**
- 79 Paragraph 8.3.10 'Study Area' - NRW has not signed up to the use of Effective Deterrent Ranges (EDRs) to retain some flexibility in approaches to the management of noise, and thus usually recommend alternative approaches (NRW 2023 a & b). If underwater noise modelling is being carried out as indicated in 8.11.4 'Underwater noise modelling', NRW (A) would recommend the results be used to inform assessments. **Key Issue 2.**
- 80 Paragraph 8.5.31 'Designated Sites' - As noted previously, the distance to Lleyn Peninsula and the Sarnau / Pen Llŷn a'r Sarnau SAC is identified as being beyond than 100km and is thus screened out in paragraph 8.5.31 and Table 8-10, whereas in Appendix 3.3 Table 4-4 it is listed to be 80km from the site, and is thus screened in. NRW (A) do not recommend the use of 100km for screening and recommend Pen Llŷn a'r Sarnau SAC is screened in for grey seal. **Key Issue 3.**
- 81 Paragraph 8.11.4 'Underwater noise modelling' - NRW(A) highlight the following relevant position statements on noise assessments;
- NRW (2023a) [NRW's Position on Assessing the effects of hearing injury from underwater noise for environmental assessments](#)
 - [NRW \(2023b\) Position on Assessing Behavioural Disturbance of Harbour Porpoise \(Phocoena phocoena\) from underwater noise](#)

Chapter 12 Underwater Noise and Vibration

- 82 Paragraph 12.5.4 'Desk Based Review' - Burbo bank offshore windfarm has been included in the list of "recent projects". Burbo Bank was constructed 17 years ago, and the extension 7 years ago. If offshore wind projects are to be included in the desk-based review, NRW (A) recommend more recent projects in the wider Liverpool Bay / Irish sea region be included. **Key Issue 4.**

Appendix 3.3 HRA Screening Report

- 83 Paragraph 4.2.13 ' Sites designated for marine mammals' - NRW (A) generally consider that the appropriate scale at which to consider offsite impacts for marine mammals is

the relevant species-specific Marine Mammal Management Unit (MMMU) (NRW 2022).
Key Issue 1.

6 Development and Flood Risk

Key Comments

- 84 NRW Development and Flood Risk (DFR) are supportive of the approach/content of Chapter 19 on Flood Risk, and the Environment Agency will provide further advice as any flood risk impact will be contained in England.
- 85 However, DFR advise that NRW rely on data from the Class A gauge at Liverpool to base flood alerts along the River Dee estuary and the North Wales coast. It is therefore advised that the impact of the scheme on the gauge is considered and addressed as part of the scoping.

7 References

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[Natural Resources Wales / Marine ecology datasets for marine developments;](#)

NRW (2022) [NRW's position on the use of marine mammal management units for screening and assessment in habitats regulations assessments for special areas of conservation with marine mammal features](#)

NRW (2022) [GN060 Information to support Environmental Assessment of tidal lagoon developments in Wales \(naturalresources.wales\)](#)

NRW (2023a) [NRW's Position on Assessing the effects of hearing injury from underwater noise for environmental assessments](#)

NRW (2023b) [Position on Assessing Behavioural Disturbance of Harbour Porpoise \(Phocoena phocoena\) from underwater noise](#)
[Water Watch Wales \(naturalresourceswales.gov.uk\)](#)



The Planning Inspectorate
Environmental Services
Operations Group 3
Temple Quay House
2 The Square
Bristol, BS1 6PN

Square One,
4 Travis Street
Manchester
M1 2NY
michael.gradwell@networkrail.co.uk

Date: 15/10/2024

Network Rail comments in respect of Mersey Tidal Power Project scoping consultation

Thank you for consulting Network Rail on the scoping consultation associated with the Mersey Tidal Power Project. Network Rail has reviewed the submitted documentation and wishes to make the following comments.

Property Agreements

Should Network Rail land holdings be affected by the scheme then we would expect appropriate property agreements to be entered into for any (freehold) land and/or permanent/temporary easement requirements as well as Asset Protection Agreements. Should a Development Consent Order be submitted then we would also expect a Framework Agreement to be entered into with Network Rail and the Order should also append Network Rail's standard Protective Provisions. The disposal of any interest in Network Rail land will of course also require approval through our Land Clearance portal.

Specific Interface with NR Assets

Following review of the consultation documentation, a number of potential interfaces with NR interests have been identified, specifically:

- Potential drilling and installation of apparatus underneath the railway. Network Rail technical specialists will need to review detail. There is also a possible need for acquisition of property rights:

Volume 1 Chapters page 607: "The Wirral Railway Line passes through the possible grid connection Scoping Boundary south of Brookhurst. The grid connection cable will be located below ground and is likely to be installed beneath the railway using horizontal directional drilling. Prior to construction the Applicant or the appointed construction contractor will engage with National Rail to develop and agree appropriate method statements and risk assessments. It is therefore considered that this MA&D event type can be scoped out from further assessment."

- Interface with Mersey Tunnel: Network Rail will need to review and comment:

Volume 1 Chapters 23.6.6 “There are two road tunnel crossings under the River Mersey (Kingsway Tunnel (north) and Queensway Tunnel (south) and one rail tunnel crossing (Mersey Railway).”

- Grid Connection routing: There is reference to the potential use of disused railway tunnels, but it is not clear where these are. Any use of Network Rail infrastructure would clearly need agreement. Whatever is proposed must be done in collaboration with the Liverpool City Region Combined Authority and Network Rail. There are aspirations to reopen tunnels, such as the Wapping Tunnel for new railway lines in the future, so the Tidal Power Project needs to work with the LCR/NR to make sure the proposals do not compromise the aspirations of partners.

“2.9.8 For connection to Lister Drive substation there is the option to utilise the existing underground route via Queensway tunnel and existing disused railway tunnels”.

Asset Protection

An interface with Network Rail is required for this proposal – the applicant party is advised that Network Rail will need to agree and supervise this proposal and that no works are to take place until agreed with Network Rail.

Network Rail is submitting some initial comments on the above proposal. Network Rail reserves the right to amend, update, supersede, withdraw or even object to proposals if fresh information comes to light/pending further information.

I have included below details of Network Rail's Asset Protection standard for those outside parties working by the railway. In addition to any Town Planning comments the applicant must abide by the points within the standard and they must ensure that they interface with Network Rail and undertake the works with Network Rail's agreement. Only Network Rail are able to determine the level of impacts of the proposal on the operational railway & its boundary.

Please note that whilst Network Rail (NR) is submitting responses via the planning application process, it should be born in mind by the LPA/developer that the operational railway presents risks/issues that are different/unique to the risks posed by works taking place adjacent to non-railway undertaker land. Works on this site therefore must be undertaken with the supervision of NR via the ASPRO (asset protection) team to ensure that the works on site do not impact the safe operation, stability, integrity of the railway & its boundary. The LPA/developer are advised that unauthorised works adjacent to the railway boundary could impact the operation of nationally significant infrastructure & the applicant would be liable

for any and all damages & costs caused by any works undertaken in this scenario. Therefore, the developer is requested to ensure that the development meets with NR requirements for works/developments adjacent to the railway boundary which include planning material considerations as well as obligations specific to the railway undertaker. The interface is via a NR BAPA (basic asset protection agreement) – the developer is advised that the works must not commence on site (even if planning permission is granted) until agreed with NR. The applicant will be liable for all costs incurred by NR in facilitating, reviewing this proposal.

Measurements to railway tracks and railway boundary

When designing proposals, the developer and council are advised, that any measurements must be taken from the operational railway / Network Rail boundary and not from the railway tracks themselves. From the existing railway tracks to the Network Rail boundary, the land will include critical infrastructure (e.g. cables, signals, overhead lines, communication equipment etc) and boundary treatments (including support zones, vegetation) which might be adversely impacted by outside party proposals unless the necessary asset protection measures are undertaken. No proposal should increase Network Rail's liability. To ensure the safe operation and integrity of the railway, Network Rail issues advice on planning applications and requests conditions to protect the railway and its boundary.

Obligations

Properties adjoining or in the vicinity of the railway are frequently the subject of obligations, rights, exceptions and reservations for the benefit of Network Rail's land and railway. The applicant must review the title to their property to see whether any such obligations etc exist and ensure that there is no non-compliance or breaches of them or any interference with or obstruction of Network Rail's rights and reservations. If the proposed development would not comply with or would breach any of the terms of the conveyance, the developer must revise his proposals.

RAMS

The developer is to submit directly to Network Rail asset protection, a Risk Assessment and Method Statement (RAMS) for all works to be undertaken within 10m of the operational railway under Construction (Design and Management) Regulations, and this is in addition to any planning consent. Network Rail would need to be re-assured the works on site follow safe methods of working and have also taken into consideration any potential impact on Network Rail land and the existing operational railway infrastructure. Builder to ensure that no dust or debris is allowed to contaminate Network Rail land as the outside party would be liable for any clean-up costs. Review and agreement of the RAMS will be undertaken between Network Rail and the applicant/developer.

Network Rail would request that a condition is included in the planning consent as follows:
"A method statement and risk assessment must be submitted to the council and Network Rail for review and agreement prior to works commencing on site."

REASON: To ensure that the construction and subsequent maintenance of the proposal can be carried out without adversely affecting the safety, operational needs or integrity of the railway.

Fail Safe Use of Crane and Plant

All operations, including the use of cranes or other mechanical plant working adjacent to Network Rail's property, must at all times be carried out in a "fail safe" manner such that in the event of mishandling, collapse or failure, no materials or plant are capable of falling within 3.0m of the nearest rail of the adjacent railway line, or where the railway is electrified, within 3.0m of

overhead electrical equipment or supports. With a development of a certain height that may/will require use of a crane, the developer must bear in mind the following. Crane usage adjacent to railway infrastructure is subject to stipulations on size, capacity etc. which needs to be agreed by Network Rail prior to implementation.

Please see links to guidance for tower crane and mobile cranes adjacent to the railway to be flagged up to the developer/applicant.

<https://www.cpa.uk.net/downloads/80/CPA-CIG-Mobile-Cranes-Alongside-Railways-181201.pdf>

<https://www.cpa.uk.net/safety-and-technical-publications/tower-crane-guidance>

Encroachment

The developer/applicant must ensure that their proposal, both during construction, and after completion of works on site, does not affect the safety, operation or integrity of the operational railway, Network Rail land and its infrastructure or undermine or damage or adversely affect any railway land and structures.

- There must be no physical encroachment of the proposal onto Network Rail land, no over-sailing into Network Rail air-space and no encroachment of foundations onto Network Rail land or under the Network Rail boundary.
- All buildings and structures on site including all foundations / fencing foundations must be constructed wholly within the applicant's land ownership footprint.
- Buildings, windows and structures must not over-sail Network Rail air-space/boundary.
- Any future maintenance must be conducted solely within the applicant's land ownership.
- Rainwater goods must not discharge towards or over the railway boundary
- Should the applicant require access to Network Rail land to facilitate their proposal they would need to approach the Network Rail Asset Protection Team at least 20 weeks before any works are due to commence on site. The applicant would be liable for all costs incurred in facilitating the proposal and an asset protection agreement may be necessary to undertake works. Network Rail reserves the right to refuse any works by an outside party that may adversely impact its land and infrastructure.
- Any unauthorised access to Network Rail air-space or land will be deemed an act of trespass.

Lighting

To ensure the ongoing safety of the operational railway the applicant's lighting design must demonstrate no overspill of light onto Network Rail land. Lighting close to or adjacent to the

railway boundary must not impact train driver's ability to perceive signals and therefore all column lighting is recommended to be:

- White LED
- Flat bottom luminaires
- Downlit throw lighting
- Lighting to be directed away from the railway boundary
- Avoid the use of flashing lights or screens as part of developments
- Avoid lighting of Green, Yellow and Red.

Scaffolding

Scaffolding which is to be constructed within 10 metres of the Network Rail / railway boundary must be erected in such a manner that at no time will any poles over-sail the railway and protective netting around such scaffolding must be installed. The applicant / applicant's contractor must consider if they can undertake the works and associated scaffolding / access for working at height within the footprint of their land ownership boundary. The applicant is reminded that when pole(s) are erected for construction or maintenance works, they must have a minimum 3m failsafe zone between the maximum height of the pole(s) and the railway boundary.

This is to ensure that the safety of the railway is preserved, and that scaffolding does not:

- Fall into the path of on-coming trains
- Fall onto and damage critical and safety related lineside equipment and infrastructure
- Fall onto overhead lines bringing them down, resulting in serious safety issues (this is applicable if the proposal is above the railway and where the line is electrified).

Network Rail would request a condition is applied as follows within the planning consent: "Details of *scaffolding works within 10m of the railway boundary, to be submitted to the council and Network Rail for agreement.*"

Reason - In the interests of protecting the railway and its boundary from over-sailing scaffolding.

Vibro-Impact Machinery

If vibro-compaction machinery / piling machinery or piling and ground treatment works are to be undertaken as part of the development, details of the use of such machinery and a method statement must be submitted to the Network Rail for agreement.

- All works shall only be carried out in accordance with the method statement and the works will be reviewed by Network Rail. The Network Rail Asset Protection Engineer will need to review such works in order to determine the type of soil (e.g. sand, rock) that the works are being carried out upon and also to determine the level of vibration that will occur as a result of the piling.
- The impact upon the railway is dependent upon the distance from the railway boundary of the piling equipment, the type of soil the development is being constructed upon and the level of vibration. Each proposal is therefore different and thence the need for Network Rail to review the piling details / method statement.

Maximum allowable levels of vibration - CFA piling is preferred as this tends to give rise to less vibration. Excessive vibration caused by piling can damage railway structures and cause movement to the railway track as a result of the consolidation of track ballast. The developer must demonstrate that the vibration does not exceed a peak particle velocity of 5mm/s at any structure or with respect to the rail track.

If vibro-impact equipment is to be used we would request a condition is added to the planning consent as follows:

“Prior to any vibro-impact works on site, a risk assessment and method statement shall be submitted to the LPA and Network Rail.”

Reason – to prevent any piling works and vibration from de-stabilising or impacting the railway.

Access to Railway

All roads, paths, boundaries or ways providing access to any part of the railway undertaker's land both temporary and permanent, must remain open and unblocked (24/7, 365 – around the clock) both during construction works and as a permanent arrangement.

- The proposal must not encroach onto any Network Rail access road, paths or ways of access to any part of Network Rail land. This also includes emergency vehicles ability to access and exit Network Rail land.
- The proposal construction works must not prevent Network Rail from accessing its land.

Before commencing any works on site the developer/applicant should confirm with Network Rail Property Services that there are no network Rail rights of access/covenants allowing rights of access over the land within the proposal area or that could be impacted by the proposal outside the proposal area.

Email: PropertyRequestsNWC@networkrail.co.uk

Drainage proposals and Network Rail land

The applicant must ensure that the proposal drainage does not increase Network Rail's liability, or cause flooding pollution or soil slippage, vegetation or boundary issues on railway land. Therefore, the proposed drainage on site will include the following:

- All surface waters and foul waters must drain away from the direction of the railway boundary.
- Soakaways for the proposal must be placed at least 30m from the railway boundary.
- Any drainage proposals for less than 30m from the railway boundary must ensure that surface and foul waters are carried from site in closed sealed pipe systems.
- Suitable drainage or other works must be provided and maintained by the developer to prevent surface water flows or run-off onto Network Rail's land and infrastructure.
- Proper provision must be made to accept and continue drainage discharging from Network Rail's property.
- Drainage works must not impact upon culverts, including culverts/brooks etc that drain under the railway. The applicant will not be permitted to direct surface or foul waters into culverts which run under the railway – any discharge of surface water

under the railway via a culvert will require review and agreement from Network Rail who reserve the right to refuse use of any culverts.

- The developer must ensure that there is no surface or sub-surface flow of water towards the operational railway.
- Rainwater goods must not discharge in the direction of the railway or onto or over the railway boundary.
- Consideration of the impacts upon railway drainage of Astro-Turf/plastic lawn replacements, both during construction and any future inclusion of said Astro-turf by residents going forward.

NB: Soakaways can materially affect the strength of soil leading to stability issues. A large mass of water wetting the environment can soften the ground, and a build-up of water can lead to issues with the stability of Network Rail retaining walls/structures and the railway boundary. Network Rail does not accept the installation of soakaways behind any retaining structures as this significantly increases the risk of failure and subsequent risk to the travelling public.

If the applicant and the council insists upon a sustainable drainage and flooding system then the issue and responsibility of flooding, water saturation and stability issues should not be passed onto Network Rail. We recognise that councils are looking to proposals that are sustainable, however, we would remind the council that flooding, drainage, surface and foul water management risk as well as stability issues should not be passed ‘*elsewhere*’, i.e. on to Network Rail land.

The drainage proposals are to be agreed with Network Rail and surface water drainage on the site should be removed by a closed sealed pipe system.

The HSE identifies railways as a Major Hazard Industry. An earthwork failure within a high-hazard area has the potential to result in a catastrophic accident with multiple fatalities or long-lasting environmental issues. It should be noted that where the actions of an adjacent landowner have caused a landslip on the railway the loss adjusters are likely to advise recovery of Network Rail costs from the 3rd party, which would include costs of remediation and recovery of costs to train operators. Many railway earthworks were constructed in the Victorian period and are susceptible to failure by water saturation. Water saturation leads to an increase in pore water pressure within the earthwork material. Please also note that railways, and former railway land adjacent to it, is considered as contaminated land due to historic use of railways, which can affect the suitability of infiltration drainage.

Network Rail would request that a condition is included in the planning consent as follows:
Condition:

“Prior to the commencement of the development details of the disposal of both surface water and foul water drainage directed away from the railway shall be submitted to the Local Planning Authority and Network Rail.”

Reason: To protect the adjacent railway from the risk of flooding, soil slippage and pollution.

Protection of existing railway drainage assets within a clearance area

There is potential for railway drainage assets/connections outside Network Rail's area of ownership. No connection of drainage shall be made to these assets without Network Rail's prior consent to detailed proposals. There must be no interfering with existing drainage assets/systems without Network Rail's written permission. The developer is asked to ascertain with Network Rail the existence of any existing railway drainage assets or systems in the vicinity of the development area before work starts on site.

The Council must ensure that suitable arrangements are in place for the maintenance and renewal of all new/amended drainage for the life time of the development, to mitigate risk of flooding to any adjoining land.

Climate change & Impacts to Railway Infrastructure

Climate change and weather resilience is also a key focus for Network Rail. Land use and its intensification is a contributory factor in the impacts of climate change and our ability to be resilient as a result of the increasingly volatile weather patterns we are seeing. Land management policy and draining of land infrastructure and properties and development within urban areas with insufficient drainage solutions or water management means the negative impact on our infrastructure. There are going to be issues in terms of the unpredictability of climate change and the likelihood that storm incidents will increase, possibly rendering existing modelling insufficient; long-term maintenance of outside party assets which indirectly affect us; and trends like the removal of gardens for impermeable car parking surfacing which adds to run-off.

Therefore, the impacts of climate change on the existing operational railway should also be a factor in any surface water drainage proposal.

Excavation and Earthworks and Network Rail land:

The applicant will agree all excavation and earthworks within 10m of the railway boundary with Network Rail. Network Rail will need to review and agree the works to determine if they impact upon the support zone of our land and infrastructure as well as determining relative levels in relation to the railway. Network Rail would need to agree the following:

- Alterations to ground levels
- De-watering works
- Ground stabilisation works
- Works to retaining walls
- Construction and temporary works
- Maintenance of retaining walls
- Ground investigation works must not be undertaken unless agreed with Network Rail.
- Confirmation of retaining wall works (either Network Rail and/or the applicant). Prior to the commencement of works on site the applicant must confirm with Network Rail if there are any retaining walls/structures and the applicant must interface with Network Rail to ensure that no retaining structures are impacted on a permanent basis by their proposal.
- Alterations in loading within 15m of the railway boundary must be agreed with Network Rail.

- For works next to a cutting or at the toe of an embankment the developer / applicant would be required to undertake a slope stability review.

Network Rail would need to re view and agree the methods of construction works on site to ensure that there is no impact upon critical railway infrastructure. No excavation works are to commence without agreement from Network Rail. The council are advised that the impact of outside party excavation and earthworks can be different depending on the geography and soil in the area. The council and developer are also advised that support zones for railway infrastructure may extend beyond the railway boundary and into the proposal area. Therefore, consultation with Network Rail is requested. Any right of support must be maintained by the developer.

Network Rail requests a condition is included in the planning consent as follows:

Condition:

“Prior to the commencement of the development full details of ground levels, earthworks and excavations to be carried out near to the railway boundary shall be submitted to the Local Planning Authority and Network Rail.”

Reason: To protect the adjacent railway and its boundary.

Boundary treatments

Any structures on the applicant’s land which runs seamlessly into a section of Network Rail infrastructure will require Network Rail agreement/comments and interface/supervision to ensure that there is no impact to or increase in risk to Network Rail assets.

Gap between the railway boundary & outside party works

Network Rail **REQUIRES** that the developer includes a minimum 3 metres gap (5m to a railway viaduct) between the buildings and structures on site and the railway boundary. Less than 3m from the railway boundary (5m from a viaduct) to the edge of structures could result in construction and future maintenance works being undertaken on Network Rail land, and close to the railway boundary potentially impacting support zones or lineside cabling. All the works undertaken to facilitate the design and layout of the proposal should be undertaken wholly within the applicant’s land ownership footprint including all foundation works. Network Rail requires a minimum 3m easement (5m easement to a viaduct) between structures on site and the railway boundary to ensure that we can maintain and renew our boundary treatments. No part of the structure should over-sail the railway boundary or discharge rainwater goods onto or toward the railway boundary.

Under Track Crossings

Proposals would need to comply with the Network Rail Standard NR/L2/CIV/044 ‘‘Planning, design and construction of undertrack crossings’’.

Property clearance and agreement required prior to commencement of works once the location of the UTX is agreed in principle or utility on Network Rail land. Technical approval

and agreement of Asset Management Plan required. RAMS to be reviewed and accepted for Construction works and monitoring method statement.

Wherever possible launch and reception pits should be outside the railway boundary.

Trees

Proposals for the site should take into account the recommendations of, 'BS 5837:2012 Trees in Relation to Design, Demolition and Construction', which needs to be applied to prevent long term damage to the health of trees on Network Rail land so that they do not become a risk to members of the public in the future.

No trees shall be planted next to the boundary with the railway land and the operational railway, except for evergreen shrubs which shall be planted a minimum distance from the Network Rail boundary that is equal to their expected mature growth height. The vegetation planting must be in line with the attached matrix which has been agreed with the Tree Council. This is to prevent long term issues with leaf fall impacting the operational railway.

Parking / Hard Standing Area

As the proposal calls for the following adjacent to the boundary with the operational railway, running parallel to the operational railway or where the existing operational railway is below the height of the proposal site:

- hard standing areas
- turning circles
- roads, public highways to facilitate access and egress from developments

Network Rail requests the installation of suitable high kerbs or crash barriers (e.g. Armco Safety Barriers).

This is to prevent vehicle incursion from the proposal area impacting upon the safe operation of the railway.

Network Rail requests that a condition is included within the planning consent as follows:

“Details of appropriate vehicle safety protection measures along the boundary with the railway shall be submitted to the Local Planning Authority (in consultation with Network Rail.”

Reason: to prevent the design and layout of the road and parking spaces from impacting the adjacent operational railway with accidental vehicle incursion.

Telecomms – Electro-Magnetic Interference-Glint & Glare

The applicant is to demonstrate that the proposal will not impact the operation of railway equipment – including telecoms, equipment that can potentially be impacted via electro-magnetic interference.

The applicant will also demonstrate that the proposal will not impact train drivers' ability to perceive railway signalling via glint & glare from any solar panels/cladding. If the proposal

impacts the railway the applicant will fully fund all mitigation measures as required by Network Rail. All documentation in regard to these areas is to be reviewed under the BAPA.

Railway Tunnels including mothballed tunnels

For information see attached guidance for development above/adjacent to railway tunnels next to the railway.

Network Rail's Engineer is to approve details of any development or works within 15 metres, measured horizontally, from the outside face of the tunnel extrados with special reference to:

- a. The type and method of construction of foundations
- b. Any increase/decrease of loading on the tunnel both temporary and permanent. Certified proof that the proposals shall have no detrimental effect upon the tunnel will be necessary.
 1. It is anticipated that due to the nature of the interface it will be necessary for the Engineers appointed to enter into assurance process with Network Rail to demonstrate that the foundations for the development will not impact on the adjacent railway tunnel, the process is further outlined below.
 - The formal Railway Engineering Assurance process is described in NR/L2/CIV/003 Design, Construction and Maintenance of Civil Engineering Infrastructure.
 - Components are as follows:

Approval in Principal outlining the applicable design standards and other requirements (otherwise known as Form A)

Detailed Design Certificate (Form B)

The assurance process also requires appointment of Contractors Engineering Manager (CEM) and Contractors Responsible Engineer (CRE), however for a single discipline design the CEM and CRE can be the same person. See Network rail standard NR/L2/RSE/02009 Engineering Management for Projects. The CEM has a duty to ensure the competency of their designers and design team and remain accountable for the actions of such and their specialist design CREs.

2. Details of Vibro-compaction machinery / piling machinery or piling and ground treatment works to be undertaken as part of the development to be submitted to the Network Rail Asset Protection Engineer. Network Rail will need to review such works in order to determine the type of soil (e.g. sand, rock) that the works are being carried out upon and also to determine the level of vibration that will occur as a result of the piling. The impact upon the railway is dependent upon the distance from the railway boundary of the piling equipment, the type of soil the development is being constructed upon and the level of vibration. Each proposal is therefore different and thence the need for Network Rail to review the piling details / method statement. Maximum allowable levels of vibration - CFA piling is preferred as this tends to give rise to less vibration. Excessive vibration caused by piling can damage railway structures and cause movement to the railway track as a result of the consolidation of

track ballast. The developer must demonstrate that the vibration does not exceed a peak particle velocity of 5mm/s at any structure or with respect to sensitive railway infrastructure.

3. Foundation type and installation method to be agreed with NR. Any adverse effects on the existing tunnel shall not be accepted. An appropriate monitoring regime is to be adopted throughout all execution stages. All excavations / earthworks carried out in the vicinity of Network Rail property/ structures must be designed and executed such that no interference with the integrity of that railway structures can occur. If temporary works compounds are to be located adjacent to the operational railway, these should be included in a method statement for approval by Network Rail. Prior to commencement of works, full details of excavations and earthworks to be carried out near the railway undertaker's boundary fence should be submitted for the approval of the Asset Protection Engineer and the works shall only be carried out in accordance with the approved details.

Deep Excavation Works

Where basement or deep excavations are proposed adjacent to the railway – Network Rail review and agreement of documents as well as supervision & an interface with Asset Protection are required.

- Excavations – ASPRO would require to review (including but not limited to);
- Earthworks RAMS
- Scale section drawing and plan – showing dimensions of basement, proximity dimensions from basement to the operational rail boundary fence and depth
- And if earth works battered back – as above – dimensions from rail boundary fence
- Advise if the basement excavation will be inside the track support zone envelope
- Temporary works earthworks support including RAMS and temporary works design
- Design to include:- demonstration that the temporary works and permanent construction will not import increased risk to the operational railway both during construction and in the long term
- Calculations, G.I. strata and design check certs, CEM and CRE design CVs and appointment forms
- Lifting plans (lifting e.g. temporary works support structure components in to place)
- Designed working platforms
- De-watering method
- Dust control

Bridge Strikes

Applications that are likely to generate an increase in trips under railway bridges may be of concern to Network Rail where there is potential for an increase in 'Bridge strikes'. Vehicles hitting railway bridges cause significant disruption and delay to rail users. Consultation with

the Asset Protection Engineers is necessary to understand if there is a problem. Developers will be liable for the cost of any necessary bridge protection barriers. Where low bridges may be impacted by the proposal the applicant may also need to contact the local Highways Agency to liaise with them over the erection of signage. Consideration is to be given to high sided vehicles/HGVs that have the potential to strike low bridges carrying materials to site. Consideration should also be given to the potential for vehicles to impact the proposal once complete/as a permanent arrangement. Network Rail will need to review the traffic to site for impacts.

BAPA (Basic Asset Protection Agreement)

As the proposal includes works which could impact the existing operational railway and in order to facilitate the above, a **BAPA** (Basic Asset Protection Agreement) will need to be agreed between the developer and Network Rail. The developer will be liable for all costs incurred by Network Rail in facilitating this proposal, including any railway site safety costs, possession costs, asset protection costs / presence, site visits, review and agreement of proposal documents and any buried services searches. The BAPA will be in addition to any planning consent.

All new enquiries will need to be submitted via the Asset Protection and Optimisation - Customer Portal. [Link to ASPRO ACE Portal](#) [ASPRO Network Rail Implementation \(oraclecloud.com\)](#)

From there, the client can create an account and submit their enquiry. Enquiry will then be assigned to one of the Asset Protection team to progress. The assigned team member will then be in a position to review and comment on any submissions from the outside party.

Going forward in order for Network Rail to spend any time reviewing any submissions, provision of any asset information, attending any further meetings, assisting with discharging any planning conditions set etc, Network Rail will require the return of a signed BAPA (Basic Asset Protection Agreement) and relevant payment/ PO as noted in the estimate sent. Network Rail is a publicly funded entity and all outside party works, which these are, are cost recoverable as dictated to us by the ORR. This includes any and all documents under the discharge of conditions which must be submitted to Network Rail for review and agreement by the developer under the BAPA.

The local planning authority (LPA) are not responsible for the safe operation of the railway or our assets and the issues raised by the developer/applicant will ultimately need to be agreed by Network Rail engineering to ensure the proposed development does not interfere with the safety of the railway.

No works are to commence until with agreed Network Rail. Early engagement with Network Rail is strongly recommended.

Network Rail are regulated by the Office of Rail Regulation (ORR) and are obligated under our Network Licence to ensure the safe and efficient operation of the Network to the

reasonable satisfaction of railway service providers and funders, the BAPA is a standard form of agreement approved by the ORR to manage Outside Party works adjacent and is a non-negotiable. Receipt of the initial development details & signing of the BAPA are not acceptance of the proposal.

I trust the above is useful. Please let me know if you require any additional information.
Yours sincerely,

Michael Gradwell,
Town Planning Manager

From: [Before You Dig](#)
To: [Mersey Tidal Power Project](#)
Subject: RE: EXT:EN0110006 - Mersey Tidal Power Project EIA Scoping notification and consultation
Date: 19 September 2024 11:54:46
Attachments: [image003.png](#)
[image004.png](#)
[image005.png](#)
[image007.png](#)
[image010.png](#)
[image011.png](#)
[image001.png](#)

You don't often get email from beforeyoudig@northerngas.co.uk. [Learn why this is important](#)

Northern Gas Networks do not cover this area.

Please use this online tool to find out which gas distribution network you need to contact:

<https://www.energynetworks.org/operating-the-networks/whos-my-network-operator>

Kind regards,

Jennie Adams

Administration Assistant

Before You Dig

Northern Gas Networks

1st Floor, 1 Emperor Way

Doxford Park

Sunderland

SR3 3XR

Before You Dig: 0800 040 7766 (option 3)

www.northerngasnetworks.co.uk



Alternative contact:

beforeyoudig@northerngas.co.uk



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Northern Gas Networks Limited (05167070) | Northern Gas Networks Operations Limited (03528783) | Northern Gas Networks Holdings Limited (05213525) | Northern Gas Networks Pensions Trustee Limited (05424249) | Northern Gas Networks Finance Plc (05575923). **Registered address:** 1100 Century Way, Thorpe Park Business Park, Colton, Leeds LS15 8TU. Northern Gas Networks Pension Funding Limited Partnership (SL032251). **Registered address:** 1st Floor Citypoint, 65 Haymarket Terrace, Edinburgh, Scotland, EH12 5HD.

For information on how we use your details please

From: Mersey Tidal Power Project <merseytidal@planninginspectorate.gov.uk>

Sent: Thursday, September 19, 2024 11:53 AM

Subject: EXT:EN0110006 - Mersey Tidal Power Project EIA Scoping notification and consultation

You don't often get email from merseytidal@planninginspectorate.gov.uk. [Learn why this is important](#)

The Planning Inspectorate
Environmental Services
Operations Group 3
Temple Quay House
2 The Square
Bristol
BS1 6PN

Date: 8th October 2024

Our Ref: 24/03620/AAC

Your Ref: EN0110006

FAO.
merseytidal@planninginspectorate.gov.uk

Dear Sir/Madam

TOWN AND COUNTRY PLANNING ACT 1990

PLANNING REFERENCE:	24/03620/AAC
PROPOSAL:	Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) - Regulations 10 and 11
LOCATION:	Mersey Tidal Power Project

Thank you for consulting Shropshire Council's Development Management team, as a consultation body, on this request for a Scoping Opinion. I confirm that we do not have any comments on this consultation.

Yours sincerely,

[Redacted Signature]

Kelvin Hall
Principal Planning Officer

[Redacted Name]

Northern Team

Shropshire Council, planning.northern@shropshire.gov.uk - 01743 258940



From: [Edwards, Steven](#)
To: [Mersey Tidal Power Project](#)
Subject: EN0110006 Mersey Tidal Power Project Scoping Opinion Request
Date: 15 October 2024 12:33:20
Attachments: [image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)
[image002.png](#)
[Mersey Tidal SPM UMV Plan 1.pdf](#)
[Mersey Tidal SPM UMV Plan 2.pdf](#)
[Mersey Tidal SPM UMV Plan 3.pdf](#)
[Mersey Tidal SPM UMV Plan 4.pdf](#)

Thank you for the opportunity to comment on the information made available as part of the recent scoping consultation for the above project.

I have reviewed the proposals and provide comments for SP Energy Networks who operate and manage the electricity network up to 132kV on behalf of the licenced network operator, SP Manweb, as shown in the attached plans, noting that given the scale of the SPM network area impacted by the proposals these plans prepared at this stage show only the 132kV and in some cases 33kV network and not voltages below. SP Energy Networks comments at this stage relate to the existing network and the proposed grid connections.

Existing network

SP Energy Networks must ensure the avoidance of any adverse impact on its assets as we all drive to maintain a network that is capable of meeting the increase in demand from an all-electric economy. The next decade will be crucial in preparing the grid for these changes and this is why we are very interested in being able to comment on the proposals which may undermine maintaining and operating and developing a suitable future grid network. Secondly, SP Energy Networks raises questions regarding the proposed connection points.

SP Energy Networks requires there are measures in place to protect SP Manweb network assets and ensure safe working around the affected SPM network. At this stage, it is suggested plans of the proposed development and required environmental impact assessment include a plan showing all of the SPM network and an assessment of the impact of the proposals on this network. The proposed connections cross congested built up areas where there are many existing above and below ground utilities. The SPM network is critical national infrastructure that must not be impacted on. The SPM network assets should be clearly taken into account in the EIA baseline assessment.

There should also be a draft construction management plan which has a section on utilities and explains how impacts on the existing network is to be managed and mitigated. SPM requires there to be adequate space to maintain and operate its network in accordance with statutory obligations.

SP Energy Networks is seeking to obtain from the promoter detailed plans of their proposals showing SPM assets and the proposed DCO limits. The promoter should contact SPEN to obtain network plans showing all SPM assets. Until a plan showing the proposed development in relation to all SPM network affected by the proposals is provided and agreed, and protective provisions are drafted and discussed and agreed with SP Energy Networks, then objection is raised to there being no provision in the proposals to protect SPM assets.

The promoters assistance with this would help progress this matter. SP Energy Networks would like to resolve matters as much as possible and would like to see clarification on the crossover points/SPM assets as soon as further details can be provided.

Mitigation proposals will also need to take account of SPM assets and the operational requirements.

In addition, SPM benefits from numerous land rights interests across the proposed development area and these must be maintained for SPM to manage and operate a safe and reliable network.

Proposed Grid Connections

SP Energy Networks notes reference is made to four existing substations within a Grid Connection, the Development Area (as shown on Figure 2.5 in the scoping report figures) showing Birkenhead (275kV), Capenhurst (400kV), Lister Drive (275kV) and Breck Road (132kV) Substations.

Reference to the attached plans show Breck Road is Wallasey Grid owned and managed by SP Energy Networks which does not have a National Grid connection. SPEN to date has not received any enquiries regarding this substation forming part of the proposals and can advise there is no capacity for the generation proposed. The promoter is asked to review this aspect and also discuss with SPEN as soon as possible.

Summary

There are a number of key areas to resolve in relation to SPM network, which is critical to protect as it is this network that will be relied upon to distribute the generation into local homes and businesses. Any adverse impacts on the SPM network impact on the benefits of delivering this proposed scheme. The promoter should discuss the above with SP Energy Networks as soon as possible in order to provide a robust EIA assessment. Given the extent of the information prepared and submitted, it is a reasonable expectation for there to be a plan produced showing the SPM assets as likely to be most affected and how, and an SPM network diversions worksheet that outlines how this network will be managed within the proposed development. This should be included in an infrastructure section in the EIA assessment.

SP Energy Networks will continue to review the proposals and may wish to raise further matters in due course and welcomes further engagement with the promoter at this stage of preparing their EIA assessment.

Regards

Steve

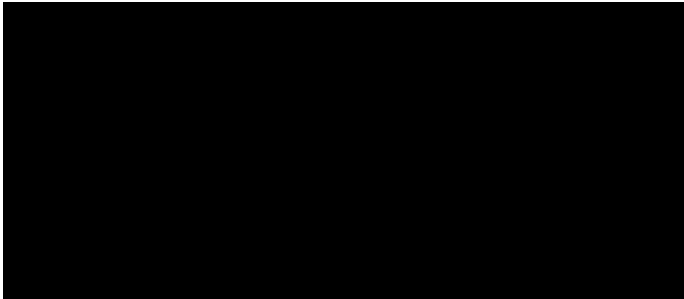


Steven Edwards | Senior Environmental Planner | Land & Planning

Tel: [REDACTED] | Int: [REDACTED] | Mob: +44 (0) [REDACTED]

SP Energy Networks, 3 Prenton Way, Prenton Merseyside CH43 3ET

Follow us



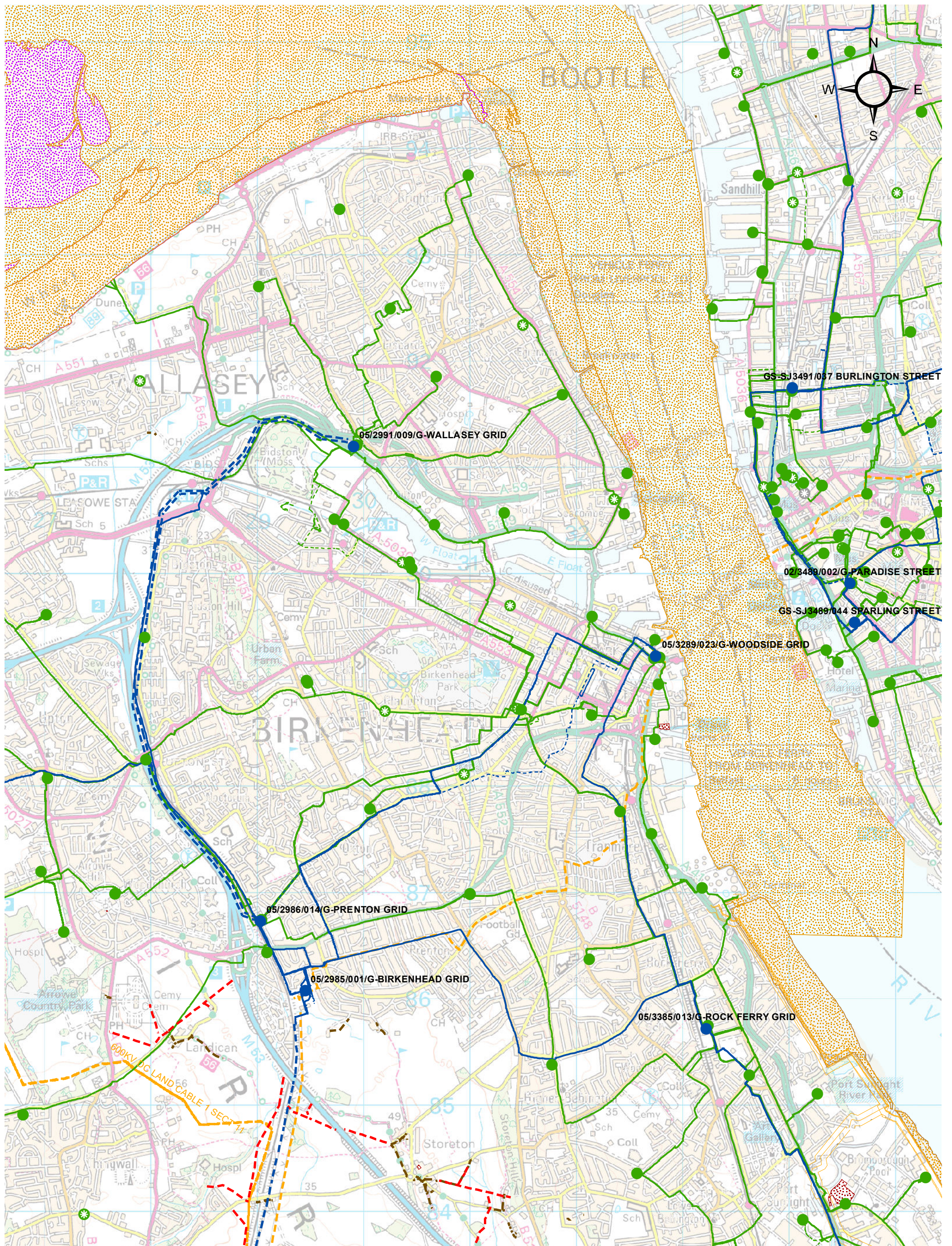
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The position and depths of underground and overhead apparatus as indicated on this plan are approximate and are intended for guidance only. The depths may have changed if the land surface levels have altered. You are also informed that the plan may not show, or may inaccurately show, individual property services and services to street lighting installations. The onus of locating the apparatus precisely before commencing any excavations or other works in the immediate vicinity therefore rests entirely upon the person undertaking or responsible for those works. Before any such works are undertaken the precise location of the apparatus and cables should therefore be ascertained by suitable means. In the event of an emergency or for further assistance please contact 0800-092-9290 (ScottishPower area) or 0800-001-5400 (SP Manweb area).

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SP ENERGY NETWORKS
On behalf of SP Manweb plc

SP Manweb plc
Registered Office: c/o PowerSystems
3 Prenton Way, Prenton, CH43 3ET
Registered in England and Wales No 2366937

OVERHEAD LINE	
In Use	—————
Out of Use	- - - - -
Assumed route	<----->
VOLTAGE COLOUR KEY	
EHV	132kV BLUE
HV	33kV GREEN
LV	RED BROWN

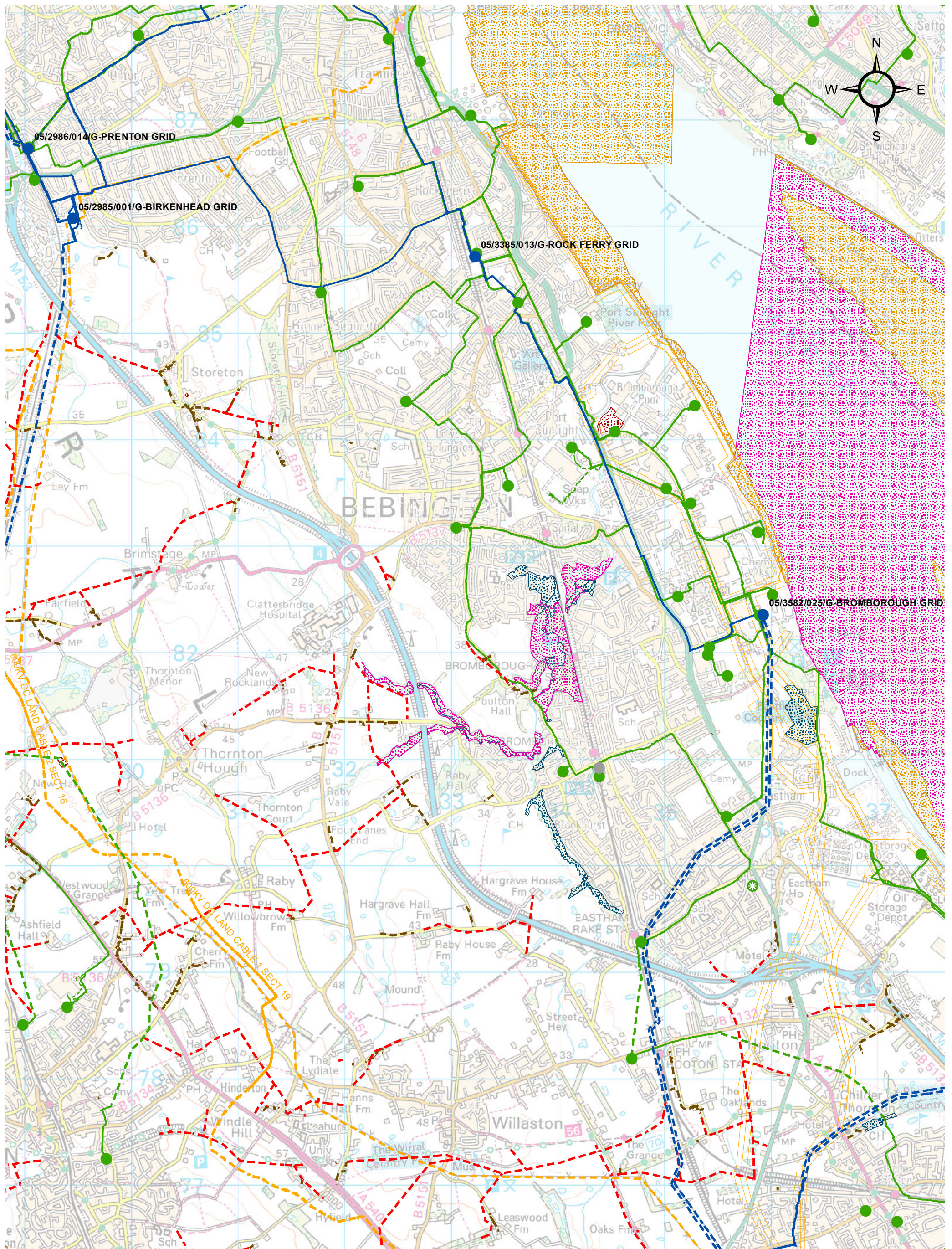
Where cables have been laid SINCE 1 OCTOBER 1988, the following depths in mm apply to the tops of cables or ducts) UNLESS OTHERWISE SHOWN, but see comments. (TO TOP OF CABLE, ADD 75mm FOR BOTTOM OF TRENCH)

	EHV	HV	LV
IN FOOTPATHS :	775	600	450
ACROSS ROADS :	775	700	600
ALONG ROADS :	775	700	600
AGRICULTURAL :	910	910	910

Your attention is drawn to the Health and Safety Executive Booklet HSG47, available from HSE.

DATE	14/10/2024
SCALE	1 : 32,320
MAP REFERENCE	331029,389016

0 105210 420 630 840 Metres



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SP ENERGY NETWORKS
On behalf of SP Manweb plc

SP Manweb plc
Registered Office: c/o PowerSystems
3 Prenton Way, Prenton, CH43 3ET
Registered in England and Wales No 2366937

OVERHEAD LINE		-----
UNDERGROUND CABLES		
In Use	—————	
Out of Use	- - - - -	
Assumed route	<----->	
VOLTAGE COLOUR KEY		
EHV	132kV	BLUE
EHV	33kV	GREEN
HV		RED
LV		BROWN

Where cables have been laid SINCE 1 OCTOBER 1988, the following depths in mm apply to the tops of cables or ducts) UNLESS OTHERWISE SHOWN, but see comments. (TO TOP OF CABLE, ADD 75mm FOR BOTTOM OF TRENCH)

	EHV	HV	LV
IN FOOTPATHS :	775	600	450
ACROSS ROADS :	775	700	600
ALONG ROADS :	775	700	600
AGRICULTURAL :	910	910	910

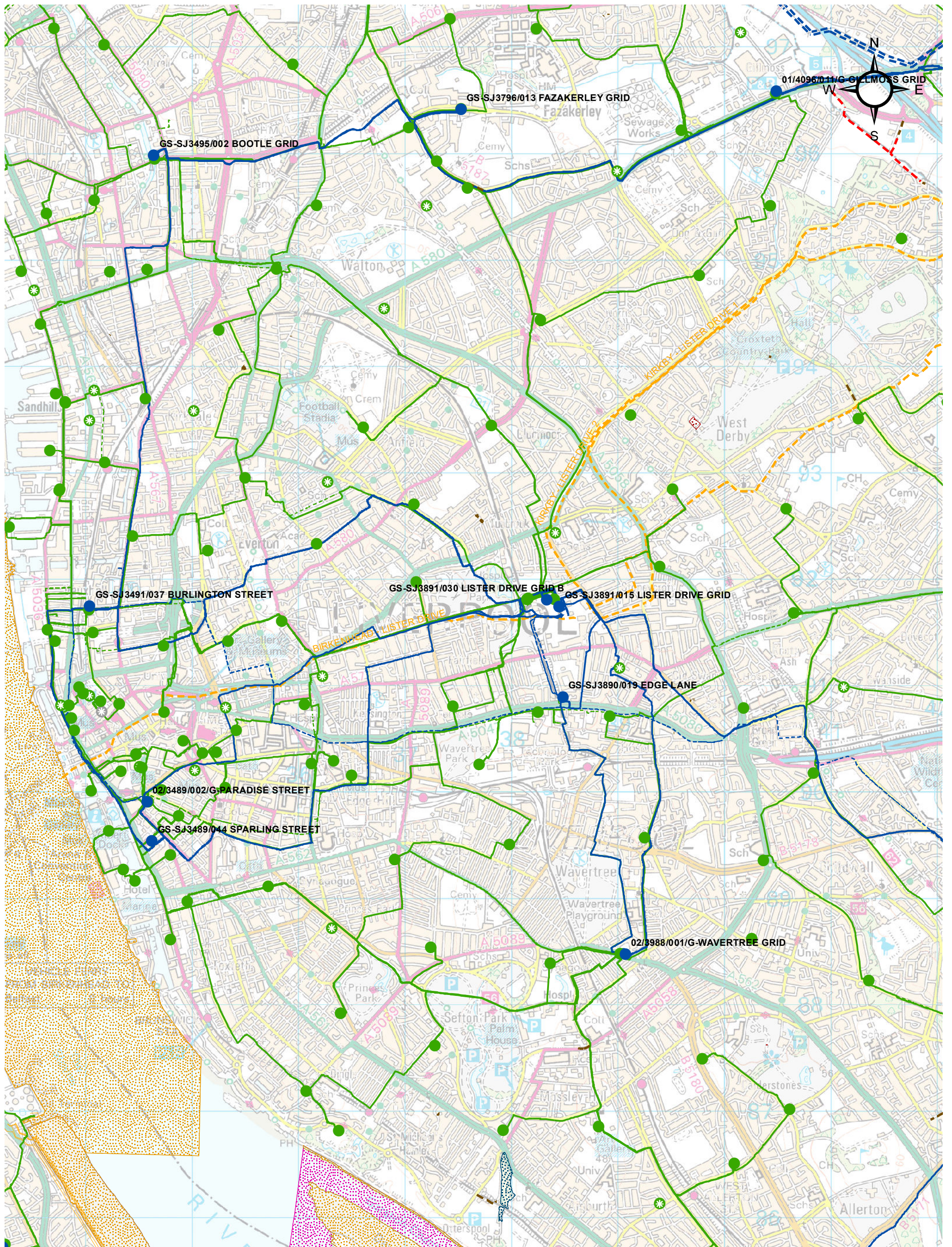
Your attention is drawn to the Health and Safety Executive Booklet HSG47, available from HSE.

DATE: 14/10/2024

SCALE: 1 : 32,316

MAP REFERENCE: 333222,381745

0 105210 420 630 840 Metres



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SP ENERGY NETWORKS
On behalf of SP Manweb plc

SP Manweb plc
Registered Office: c/o PowerSystems
3 Prenton Way, Prenton, CH43 3ET
Registered in England and Wales No 2366937

OVERHEAD LINE	---
UNDERGROUND CABLES	
In Use	—————
Out of Use	- - - - -
Assumed route	<----->
VOLTAGE COLOUR KEY	
EHV	132kV BLUE
	33kV GREEN
HV	RED
LV	BROWN

Where cables have been laid SINCE 1 OCTOBER 1988, the following depths in mm apply to the tops of cables or ducts) UNLESS OTHERWISE SHOWN, but see comments. (TO TOP OF CABLE, ADD 75mm FOR BOTTOM OF TRENCH)

	EHV	HV	LV
IN FOOTPATHS :	775	600	450
ACROSS ROADS :	775	700	600
ALONG ROADS :	775	700	600
AGRICULTURAL :	910	910	910

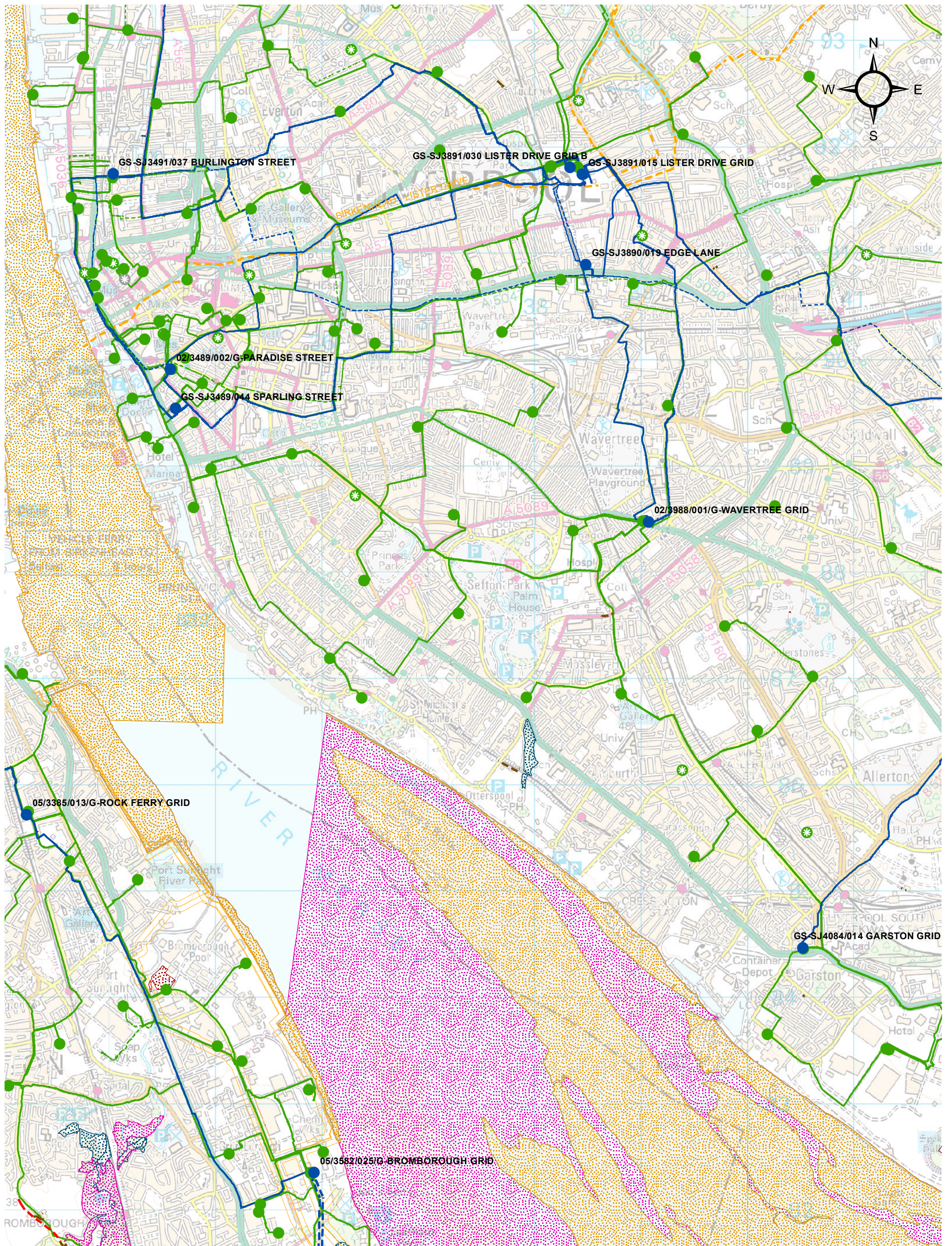
Your attention is drawn to the Health and Safety Executive Booklet HSG47, available from HSE.

DATE: 14/10/2024

SCALE: 1 : 32,316

MAP REFERENCE: 337643,391065

0 105210 420 630 840 Metres



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SP ENERGY NETWORKS
On behalf of SP Manweb plc

SP Manweb plc
Registered Office: c/o PowerSystems
3 Prenton Way, Prenton, CH43 3ET
Registered in England and Wales No 2366937

OVERHEAD LINE - - - - -

UNDERGROUND CABLES

In Use - - - - -

Out of Use - - - - -

Assumed route < - - - - - >

VOLTAGE COLOUR KEY

EHV	132kV	BLUE
HV	33kV	GREEN
LV		RED
		BROWN

Where cables have been laid SINCE 1 OCTOBER 1988, the following depths in mm apply (to the tops of cables or ducts) UNLESS OTHERWISE SHOWN, but see comments. (TO TOP OF CABLE, ADD 75mm FOR BOTTOM OF TRENCH)

	EHV	HV	LV
IN FOOTPATHS :	775	600	450
ACROSS ROADS :	775	700	600
ALONG ROADS :	775	700	600
AGRICULTURAL :	910	910	910

Your attention is drawn to the Health and Safety Executive Booklet HSG47, available from HSE.

DATE: 14/10/2024

SCALE: 1 : 32,316

MAP REFERENCE: 337421,387002

0 105210 420 630 840 Metres

From: [Stephen Vanstone](#)
To: [Mersey Tidal Power Project](#)
Cc: [Trevor Harris](#)
Subject: RE: EN0110006 - Mersey Tidal Power Project EIA Scoping notification and consultation
Date: 15 October 2024 15:04:04
Attachments: [image003.jpg](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)
[image009.png](#)
[image010.png](#)
[image011.png](#)
[EN0110006 - Statutory Consultation Letter.pdf](#)

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Good afternoon Claire,

I note that the proposed development area lies within the River Mersey and in the jurisdiction of Peel Ports Mersey. Therefore, Trinity House advise that all marine works proposed below mean high water springs should be fully assessed in consultation with Peel Ports Mersey. The Navigation Risk Assessment will require significant input from Peel Ports Mersey, including agreement of proposed risk mitigation measures and the requirement for aids to navigation.

Kind regards,

Stephen Vanstone

Navigation Services Manager | Navigation Directorate | Trinity House

[REDACTED] [trinityhouse.co.uk](#) | [REDACTED] & [REDACTED]

[www.trinityhouse.co.uk](#)



From: Mersey Tidal Power Project <merseytidal@planninginspectorate.gov.uk>
Sent: 19 September 2024 11:55
To: Navigation <navigation.directorate@trinityhouse.co.uk>
Cc: Thomas Arculus <[REDACTED]>
Subject: EN0110006 - Mersey Tidal Power Project EIA Scoping notification and consultation

FAO Steve Vanstone Navigation Services Officer

Please see attached correspondence on the proposed Mersey Tidal Power Project.

The Applicant for the Proposed Development intends to make an application for Development Consent under the Planning Act 2008. The Applicant has sought a Scoping Opinion from the Planning Inspectorate, on behalf of the Secretary of State, as to the scope and level of detail of the information to be provided within the Environmental Statement that will accompany its future application.

The Planning Inspectorate has identified you as a consultation body to inform the Scoping Opinion and is therefore inviting you to submit comments by **16 October 2024**. The deadline is a statutory requirement that cannot be extended.

Further information is included within the attached letter.

Kind regards

Claire Deery (She/Her)
Senior EIA Advisor
The Planning Inspectorate

By email to: merseytidal@planninginspectorate.gov.uk

Your ref:

Our ref:

Date: 16-OCT-24

Dear Sir / Madam

Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11

Application by Mersey Tidal Power Project (the Applicant) for an Order granting Development Consent for the Mersey Tidal Power Project (the Proposed Development)

Scoping Consultation

Thank you for allowing United Utilities the opportunity to comment on the EIA Scoping Opinion Request for the proposal to build the Mersey Tidal Power Project. We understand that the proposals are evolving with a view to formally submitting the application for a Development Consent Order (DCO) in July 2026. It is important that we highlight that the costs for assessing the impact on our assets will be recoverable. We will advise on this process shortly.

We note that the proposals include:

- a tidal range barrage located within the channel of the Mersey Estuary;
- an onward grid connection to a National Grid substation or other substations; and
- utilisation of the surrounding port facilities during the construction phase in addition to other potential associated developments which may support the construction phase.

We have begun to conduct an initial high-level review of the scoping report, however, we request continued engagement from the applicant to ensure our concerns are adequately addressed and to ensure appropriate protective provisions are agreed. In the interim, we wish to provide the following initial comments for consideration.

1. Our Assets and Property Interests

We would expect to see plans showing the proposals in relation to United Utilities' infrastructure and property interests as part of the DCO. We would be grateful if you can provide the latest information of the proposals and any associated development in a shp file format.

Water and Wastewater Infrastructure

There is a range of water and wastewater infrastructure within the proposed scoping area boundary. The area includes a large number of public sewers and water mains. It is important to highlight that these assets include strategic assets and treatment works. Further dialogue and agreements in respect of all our assets and property interests are required. We require 24-hour access to our assets and infrastructure for maintenance, repair, and replacement. Access to our infrastructure must not be adversely affected in any proposals you bring forward, including during the construction period.

At the end of this letter, we have appended a note which is titled **‘Supporting information for the decision maker, applicant, developer and any other interested party.’** This information is normally appended to the end of our planning application responses. Although this is not an application for planning permission, the appended note provides helpful information regarding asset protection matters.

Please note:

UUW will not allow building over or in close proximity to a water main.

UUW will not allow a new building to be erected over or in close proximity to a public sewer or any other wastewater pipeline. This will only be reviewed in exceptional circumstances.

You should not assume that our assets can be diverted.

On occasion, an asset protection matter within a site can preclude delivery of proposals.

It is critical that you engage with United Utilities so that our assets are fully considered in the detail of your design and the proposed construction works. We request that our assets are clearly referenced as a major constraint that must be fully understood as soon as possible and prior to progressing the detail of any design. The detail of any design and the approach to construction will need to be agreed with United Utilities. This must include agreement of any changes in levels of land on top of our assets. You should not assume that changes in levels will be acceptable. Changes in levels on top of our assets can affect the structural integrity of our infrastructure and the hydraulic performance of our assets. Changes in manhole cover levels on our sewers can result in the increase or displacement of flood risk from the public sewer, which would not be acceptable.

The details of any access or roads (temporary or permanent) that are proposed on top of our assets, and any services that are located within the easement / offset area for our assets, must be agreed in writing.

We require access as detailed in our *‘Standard Conditions for Works Adjacent to Pipelines’* and *‘United Utilities Mersey Valley Sludge Pipeline Requirements for Work to be Carried Out Adjacent to High Pressure Sludge Pipelines’*, (copies of which can be found on our website). You must comply with these documents. They should be taken into account in the final proposals, or a diversion may be necessary.

It is the applicant's responsibility to demonstrate the exact relationship between any United Utilities' assets and the proposed development. The position of underground apparatus shown on asset maps is approximate only and is given in accordance with the best information currently

available. United Utilities will not accept liability for any loss or damage caused by the actual position being different from those shown on the map. The applicant should investigate the existence and the precise location of water and wastewater pipelines as soon as possible as this could significantly impact the proposals and/or diversion of the asset(s) may be required. Where United Utilities' assets cross the proposed Order Limits, the applicant must contact United Utilities prior to commencing any works on site, including trial holes, groundworks or demolition.

If considering a diversion, the applicant should contact United Utilities at their earliest opportunity as they may find that a diversion is not possible. In some circumstances, usually related to the size and nature of the assets impacted by proposals, developers may discover that the cost of a diversion is prohibitive in the context of their development scheme. Unless there is specific provision within the title of the property or an associated easement, any necessary disconnection or diversion of assets to accommodate development, will be at the applicant's/developer's expense.

Where United Utilities' assets exist, the level of cover to our pipelines and apparatus must not be compromised either during or after construction and there should be no additional load bearing capacity on our assets without prior agreement with United Utilities. This would include earth movement and the transport and position of construction equipment and vehicles. The applicant should therefore give careful consideration to the implications of any changes in proposed land levels. Any such changes will need to be agreed with United Utilities.

Consideration should also be applied to United Utilities' assets which may be located outside the Order Limits. Any construction activities in the vicinity of our assets must comply with our '*Standard Conditions for Works Adjacent to Pipelines*' and national building standards.

You must contact United Utilities for advice if your proposal is in the vicinity of water or wastewater pipelines and apparatus. It is your responsibility to ensure that United Utilities' required access is provided within the layout and that our infrastructure is appropriately protected. The applicant would be liable for the cost of any damage to United Utilities' assets resulting from your activity.

For more details on the asset protection issues which we have raised, you can contact our Developer Services teams to discuss using our **free pre-application service**:

Developer Services – Wastewater
Tel: 03456 723 723
Email: SewerAdoptions@uuplc.co.uk

Developer Services – Water
Tel: 0345 072 6067
Email: DeveloperServicesWater@uuplc.co.uk

Planting of Trees, Landscaping and Biodiversity

UW wishes to note the importance of any approach to planting trees and landscaping giving due consideration to the impact on utility services noting the implications that can arise because of planting too close to our assets. This can result in root ingress, which in turn increases the risk of drainage system failure and increases flood risk. Further details on suitable trees for planting near our assets can be found in our '*Standard Conditions for Works Adjacent to Pipelines*' (Document Ref: 90048 Issue 3.1 July 2015). A copy of this document can be found on our website. Biodiversity

proposals on top of our assets will not normally be acceptable as we will need to maintain access for maintenance, repair and replacement.

Vibration, Loading and Settlement

United Utilities requests that the impact of the proposed development includes an assessment of any potential settlement and vibration on United Utilities' assets. Similarly, any loading on United Utilities' assets during operation or during construction requires further consideration with United Utilities.

Storage of Equipment and Materials within Easements / Offset Areas for Access and Maintenance

United Utilities has not undertaken a detailed assessment of where equipment and/or materials are proposed to be stored within a United Utilities' easement / area required for access and maintenance. As a general requirement, United Utilities does not usually allow the easement area, easement width or the necessary offset distance from our assets to be obstructed or impeded in any way. This is due to, but not limited to:

- loading implications of the asset and probability of asset failure;
- implications on access and maintenance of the asset, especially for critical assets;
- security of supply; and
- health and safety implications.

United Utilities reserves the right to instruct the removal of the equipment and materials located within the easement / access and maintenance offset area. United Utilities requires further consultation and supplementary information to discuss any affected assets.

Construction Compounds / Construction Traffic

We wish to emphasise that construction compounds should not be located on top of our apparatus. This is because we require unrestricted access for maintenance, repair and replacement to discharge our statutory duties. Similarly, detailed consideration will need to be given to any proposed construction traffic routes to assess the impact on our assets. It will be necessary to ensure that any approach to construction is the subject of a construction management plan to address a range of issues including the protection of our assets as well as any wider impact on our operations.

Ecological Mitigation and Biodiversity Net Gain

We wish to emphasise that ecological mitigation and the delivery of areas for biodiversity net gain should not be located on top of our apparatus. This is because we require unrestricted access for maintenance, repair and replacement to discharge our statutory duties.

Property Interests

Within the scoping area boundary, we have a range of property interests which include land in the ownership of United Utilities, easements, rights of way. We wish to discuss with you the implications for our land interests of the proposals.

Please note that the any easement associated with our apparatus is in addition to our statutory rights for inspection, maintenance and repair under the Water Industry Act 1991. The easements

have restrictive covenants that must be adhered to. It is the responsibility of the developer to obtain a copy of the document, available from United Utilities Legal Services or Land Registry and to comply with the provisions stated within the document. Under no circumstances should anything be stored, planted or erected on the easement width. Nor should anything occur that may affect the integrity of the pipes or the legal right of United Utilities to 24 hour access. The applicant should contact our Property Services team to discuss how the proposals affect our land interests and to ensure no detrimental impact. United Utilities Property Services can be contacted at PropertyGeneralEnquiries@uuplc.co.uk.

2. Flood Risk

Existing drainage systems are often dominated by combined sewers. This method of sewer infrastructure is a result of the time it was constructed, with combined sewers taking both foul and surface water. If there is a consistent approach to surface water management, it will help to manage and reduce surface water entering the sewer network, decreasing the likelihood of flooding from sewers, the impact on residents and businesses, and the impact on the environment.

Whilst we do all that we can to reduce the risk of sewer flooding, there remains a residual risk, which is a source of flooding that should be considered in your Environmental Statement (ES). National policy is clear that flood risk from all sources, including sewers and reservoirs, must be considered in the delivery of new development. As such, it is important to ensure that the assessment of flood risk includes sewer and reservoir flood risk. It should be ensured that your proposed development does not result in an increase in flood risk as result of:

- i) changes to the level of the tide, which could result in an increase in the locking of United Utilities' outfalls;
- ii) any proposed new drainage connections to the public sewer;
- iii) by altering any existing exceedance flood paths of losses from the public sewer / reservoirs;
- iv) by locating any above ground elements of your proposal in areas where there is an existing risk of sewer flooding;
- v) any diversions / works to watercourses or existing sewers which could materially affect hydraulic performance and therefore change / increase any risk of flooding;
- vi) any changes in ground levels which could materially change existing sewer flood risk; or
- vii) any changes to land or property currently affected by existing hydraulic sewer flooding incidents.

With regards to point i) above, we note Paragraphs 2.7.7 to 2.7.10 of the EIA Scoping Report: Volume 1 Chapter, which states:

'2.7.7 The Applicant recognises that one of the key considerations for tidal barrage schemes proposed within estuarine environments is the potential reduction in tidal range which could result in changes to water levels upstream of the tidal barrage.'

2.7.8 Acknowledging the Mersey contains a significant area of designated intertidal mudflat, sandflat and saltmarsh areas in addition to its supporting qualifying features, modelling work has been undertaken to support establishment of a robust baseline from which the likely effects and impacts on associated habitats as a result of the development and operation of the tidal barrage can be judged.

2.7.9 During any operational mode of the barrage, if low water levels are raised, lower intertidal areas which are currently exposed to the natural tidal range will become permanently inundated. Conversely, if high water levels are lowered, upper intertidal and salt marsh areas may be permanently exposed.

2.7.10 In addition, as the tidal barrage has the ability to control the amount of water going in and out of the estuary and so can provide protection from sea level rise and tidal flooding to areas upstream of the structure. Using a representative location south of the Mersey Tunnels (an area known as the Narrows), initial modelling has highlighted the potential alleviation benefits (see Plates 2.5 and 2.6).'

Similarly, we note that Pages 739 and 740 of the same report refer to 'tide locking.' This appears to be in the context of watercourses.

The applicant should note that United Utilities operates several outfalls in the Mersey estuary, which can be hydraulically locked during tidal ranges. The applicant must ensure that the proposals result in no detriment to the operation of these outfalls (both within and outside the scoping boundary) in terms of spill performance and sewer flood risk.

We therefore request that the ES considers flood risk from the public sewerage system and reservoirs operated by United Utilities. This should be considered in consultation with United Utilities and having regard to any models which we currently own and operate. We therefore request that the list of organisations at Paragraph 19.4.1 is updated to include United Utilities.

Impact on Watercourses

United Utilities wishes to liaise with you to confirm the impact on any watercourses that interact with our assets to ensure that there are no detrimental consequences of these works in terms of asset operation, flood risk and changes to fluvial geomorphological processes.

3. Drainage - Foul and Surface Water

We note the information within the scoping document regarding proposed drainage and the intention to discharge surface water from the tidal barrage to the Mersey. See Paragraph 2.7.19.

We also note that there may be foul and surface water discharge requirements from other elements of the proposed development. We would be grateful if the applicant can provide details of any drainage proposals in respect of both foul and surface water. This should include rates of discharge, volumes of discharge, points of connection, the nature and extent of any contaminants, and details of any necessary pre-treatment prior to connection to the public sewer. We request that you provide details of drainage during operation of the proposed tidal barrier and during the construction period. There should be no land drainage, including dewatering proposals, discharged to the public sewer.

We request further details of any approach for the storage and disposal of any hazardous fluids. We wish to understand whether there is any intention to connect such flows to our public sewerage

network and to ensure any potential impact on water supply assets, including the groundwater environment, is fully considered and mitigated.

The chosen location for any construction compounds associated with any onward grid connection will need careful consideration in the context of availability of capacity of water and wastewater infrastructure.

Surface Water Management Hierarchy

We wish to emphasise that consistent with the principles of the hierarchy for the management of surface water in national planning policy and the obligations of the Environment Act 2021, no surface water or land drainage will be allowed to discharge to the existing public sewerage system. Surface water should instead discharge to more sustainable alternatives as outlined in the surface water management hierarchy. This will ensure the impact of development on public wastewater infrastructure, both in terms of the wastewater network and wastewater treatment works, is minimised. We adopt this position as surface water flows are very large when compared with foul flows. By ensuring that no surface water / land drainage (including dewatering proposals) enters the public sewerage system, the impact on customers, watercourses and the environment is reduced.

Please note, United Utilities is not responsible for advising on rates of discharge to the local watercourse system. This is a matter for discussion with the Lead Local Flood Authority and / or the Environment Agency (if the watercourse is classified as main river).

Rights to Discharge to Watercourse or Other Receiving Water Body

Given the importance of surface water discharging to an alternative to the public sewer, we request that all land that is necessary to facilitate a discharge to a watercourse is fully identified within the Order Limits. This will ensure the Order benefits from the requisite rights of discharge to more sustainable alternatives than the public sewer for the management of surface water and any dewatering proposals, e.g., a right to discharge to a watercourse or other water body. For clarity, the extent of land should be sufficient to facilitate a surface water discharge to a watercourse / water body for all elements of the proposed development. Ensuring that the extent of land within the Order Limits and the supporting Environmental Statement (ES) is sufficient for the purposes of the discharge of surface water is important as a sewerage company has limited powers to acquire the right to discharge surface water to a water body under the Water Industry Act.

It is equally important to ensure that any existing outfalls that it may be necessary to relocate as a result of any watercourse / culvert diversion are delivered under the powers of the Order.

Multi-functional Sustainable Drainage Systems

We request that surface water is only managed via sustainable drainage systems which are multi-functional and at the surface level in preference to conventional underground piped and tanked storage systems.

Wherever practicable, Sustainable Drainage Systems (SuDS) should be implemented in accordance with the CIRIA SuDS manual. Managing surface water through the use of SuDS can provide benefits in water quantity, water quality, amenity and biodiversity.

If the applicant intends to offer wastewater assets forward for adoption by United Utilities, their proposed detailed design will be subject to a technical appraisal by our Developer Services team

and must meet the requirements outlined in ‘*Sewerage Sector Guidance*’ and United Utilities’ Asset Standards. This is important as drainage design can be a key determining factor of site levels and layout.

Acceptance of a drainage strategy does not infer that a detailed drainage design will meet the requirements for a successful adoption application. We strongly recommend that no construction commences until the detailed drainage design, has been assessed and accepted in writing by United Utilities. Any work carried out prior to the technical assessment being approved is done entirely at the developer’s own risk and could be subject to change.

Management and Maintenance of Sustainable Drainage Systems

Without effective management and maintenance, sustainable drainage systems can fail or become ineffective. As a provider of wastewater services, we believe we have a duty to advise the determining authority of this potential risk to ensure the longevity of the surface water drainage system and the service it provides to people. We also wish to minimise the risk of a sustainable drainage system having a detrimental impact on the public sewer network should the two systems interact. We therefore recommend that you include details of a management and maintenance regime for any sustainable drainage system that is included as part of the proposed development.

Please note that United Utilities cannot provide comment on the management and maintenance of an asset that is owned by a third-party management and maintenance company. We would not be involved in the approval of the management and maintenance arrangements in these circumstances.

4. Geo Environmental / Geotechnical

Groundwater Environment and Water Resources

As noted in the submission material, the boundary for the EIA scoping opinion includes several groundwater source protection zones. These are used for the abstraction of water for public water supply purposes. We request that the approach to the assessment of the impact on the groundwater environment is considered and agreed with United Utilities.

As a nationally and regionally significant scheme, the applicant should follow ‘*The Environment Agency’s approach to groundwater protection*’¹ (hereafter referred to as ‘*the Environment Agency’s approach*’) in relation to protection of drinking water supply from United Utilities’ groundwater abstractions.

At the current time we do not have sufficient information in order to be able to assess the impact of the proposed development and associated proposals where these lie within a groundwater source protection zone, or directly overlie an abstracted aquifer, to ensure the proposals ‘*do not have the potential to cause pollution or harmful disturbance to groundwater flow*’ and to ensure ‘*these risks can be reduced to an acceptable level*’. We wish to draw attention to Position Statements C1, C2 and C5 of ‘*The Environment Agency’s approach*’ which state:

‘C1 - Nationally or regionally significant schemes

The Environment Agency requires the promoters of schemes of national or regional significance to protect groundwater when choosing the location for their activity or

¹ *The Environment Agency’s approach to groundwater protection*, February 2018 Version 1.2’. The document is available at: <https://www.gov.uk/government/publications/groundwater-protection-position-statements>

development. In the cases where this is not possible due to national or regional interests, the Environment Agency expects to be fully involved in the scheme development to mitigate groundwater risks via EPR where applicable. Promoters are expected (via the environmental impact assessment process) to identify all the potential pollution linkages and apply best available techniques to mitigate the risks.

C2 - Non-nationally significant infrastructure schemes

In SPZ1 and SPZ2, the Environment Agency will only agree to proposals for infrastructure developments of non-national significance where they do not have the potential to cause pollution or harmful disturbance to groundwater flow or where these risks can be reduced to an acceptable level via EPR if applicable.

C5 - Pipelines and high voltage fluid filled cables

The Environment Agency will normally object to pipelines or fluid filled cables that transport pollutants, particularly hazardous substances that:

- pass through SPZ1 or SPZ2 where this is avoidable
- are below the water table* in principal or secondary aquifers

Where there is an existing or unavoidable need for pipelines or fluid filled cables to pass through SPZ1 or SPZ2, operators are expected to adopt BAT and operate in accordance with the Energy Networks Association guidance.

Where existing pipelines or fluid filled cables are already below the water table or if the water level subsequently rises, the Environment Agency will work with operators to mitigate the risks. The Environment Agency will only agree to any redevelopment scheme with sub water table pipelines or fluid filled cables for the transport of hazardous substances where there are substantial mitigating factors.

When the opportunity to replace existing fluid filled cables in SPZ1 and SPZ2 arises the Environment Agency will work with the operators to agree the best environmental option.

The Environment Agency expects operators to carry out a site-specific risk assessment prior to the decommissioning of pipelines or fluid filled cables in SPZ1 and SPZ2. It will then work with operators to agree the best available environmental option.

Please note that this position statement applies to underground and on-ground cables but not aerial cables.

* For the purposes of this position statement, the term 'water table' is taken to mean any laterally continuous groundwater including perched groundwater. Operators should consider the lifetime of the pipeline or cable in their assessment of the depth to groundwater.

Further position statements in section D may also apply.

Where the proposed development impacts on a sensitive location within a SPZ, relating to a drinking water abstraction resource (including those not currently in use for public water supply purposes but may need to be activated in the future), United Utilities requires a 'Hydrogeological Risk Assessment' for the specific borehole abstraction. This risk assessment should form part of the Environmental Statement and identify the pollution and ground disturbance impacts on the SPZ and set out pollution prevention mitigation measures that will be needed, both during construction and during the operational life of the proposed development. The risk assessment should fully consider any related development activities and mitigation.

The need for a risk assessment reflects the Environment Agency Position Statement N7 of the aforementioned groundwater protection document. This states:

'N7 - Hydrogeological risk assessment

Developers proposing schemes that present a hazard to groundwater resources, quality or abstractions must provide an acceptable hydrogeological risk assessment (HRA) to the Environment Agency and the planning authority. Any activities that can adversely affect groundwater must be considered, including physical disturbance of the aquifer. If the HRA identifies unacceptable risks then the developer must provide appropriate mitigation. If this is not done or is not possible the Environment Agency will recommend that the planning permission is conditioned, or it will object to the proposal.'

SPZ1

Any development taking place within and adjacent to SPZ1 is the most sensitive location from a groundwater protection viewpoint. We wish to highlight that development activities (such as construction compounds, storage facilities, temporary workers accommodation, fuel storage facilities, etc.) are more appropriately situated away from sensitive groundwater protection areas, especially land within and adjacent to SPZ1. Similarly, it is also preferable to locate mitigation activities such as wetlands and ecological mitigation away from SPZ1. Notwithstanding our strong preference for development to not take place in locations within SPZ1, if development in this location is necessary, we draw your attention to the Environment Agency's position statements as follows.

Sustainable Drainage Systems

The risks posed by drainage from the proposed development, should also be assessed within the ES for the risk to groundwater abstractions (G11).

G11 - Discharges from areas subject to contamination

Discharges of surface water run-off to ground at sites affected by land contamination, or from sites used for the storage of potential pollutants are likely to require an environmental permit.

This applies especially to sites where storage, handling or use of hazardous substances occurs (for example, garage forecourts, coach and lorry parks/turning areas and metal recycling/vehicle dismantling facilities). These sites will need to be subject to risk assessment with acceptable effluent treatment provided.'

Storage of Hazardous Substances

The risks posed by storage and distribution of fuels, chemicals and wastes from the proposed development, should also be assessed for the risk to groundwater abstractions (Environment Agency Position Statement Section D).

This above Position Statements highlight the importance of including drainage information as part of the ES.

Construction Environmental Management Plan

The applicant should follow best practice in their use and storage of fuels, oils, chemicals and other wastes, to remove the risk of causing pollution during construction and operation of the scheme. This should be included in a Construction Environmental Management Plan (CEMP). This will need

to be specific to the environmental setting of the area and should fully reflect the implications of a location within a SPZ.

Contaminated Land

United Utilities requests that the assessment of potential environmental impact from contamination fully considers the impact on our assets, water resources and water quality as a result of construction of the proposed development.

5. Water Supply Requirements

We request that you provide details of any water supply requirements for both construction and during operation as soon as possible. This should include details on rates of water supply required in litres per second and anticipated points of connection to the public water supply network. The details of water supply required should include details for any fire response purposes that may be necessary. For temporary related activities, such as construction compounds and workers accommodation, early consideration of any water supply requirements will also be required. If reinforcement of the water network is required to meet potential demand, this could be a significant project, and the design and construction period should be accounted for.

You will need to ensure that your Environmental Statement fully considers any environmental impact of your water supply requirements.

6. Contacts

The project contacts for this proposal at United Utilities is **Andrew Leyssens, Planning Manager**. If you wish to discuss the detail of this letter further, please do not hesitate to contact planning.liaison@uuplc.co.uk.

Yours faithfully

Andrew Leyssens
Planning, Landscape and Ecology
United Utilities Water Limited

Cc Mersey Tidal Power Project (By email: merseytidal@liverpoolcityregion-ca.gov.uk)

Enc. *Supporting information for the decision maker, applicant, developers and any other interested party*

Supporting information for the decision maker, applicant, developers and any other interested party

Whilst we provide the following information to support the design and delivery of the proposed scheme, we strongly recommend that the applicant, or any subsequent developer, contacts our Developer Services team at the earliest opportunity, using our **free pre-development enquiry service**, to ensure they have fully considered all aspects of development and to avoid any potential issues or unexpected costs at a later date.

Full details of the services offered to developers, guidance and application forms are available on our website: [Building & Developing - United Utilities](#)

1.0 DRAINAGE DESIGN

1.1 The importance of sustainable drainage systems

We strongly encourage all developments to include sustainable drainage systems to help manage surface water and to offer new opportunities for wildlife to flourish. We request that Local Planning Authorities and applicants do all they can to avoid surface water entering the public sewer. The flows that come from this surface water are very large when compared with the foul water that comes from toilets, showers, baths, washing machines, etc. It is the surface water that uses up a lot of capacity in our sewers and results in the unnecessary pumping and treatment of surface water at our pumping stations and treatment works. If new developments can manage flows through sustainable drainage systems that discharge to an alternative to the public sewer, it will help to minimise the likelihood of sewers spilling into watercourses and the flooding of homes and businesses.

1.2 Adoption and construction of drainage systems

If the applicant intends to offer wastewater assets forward for adoption by United Utilities, their proposed detailed design will be subject to a technical appraisal by our Developer Services team and must meet the requirements outlined in 'Sewerage Sector Guidance Appendix C – Design and Construction Guidance v2-2' dated 29 June 2022 or any subsequent iteration. This is important as drainage design can be a key determining factor of site levels and layout.

If the proposal incorporates a SuDS component(s) which interacts with a sewer network that may be offered for adoption by United Utilities, we recommend the applicant seeks further advice regarding the SuDS design; detailed information is available on our website.

Our acceptance of any drainage strategy submitted by an applicant to the Local Planning Authority for approval does not infer that a detailed drainage design will meet the requirements for a successful adoption application. We strongly recommend that no construction commences until the detailed drainage design has been submitted directly to United Utilities, assessed and accepted in writing. Any work carried out prior to the technical assessment being approved is done entirely at the developer's own risk and could be subject to change.

2.0 UNITED UTILITIES' PROPERTY, ASSETS AND INFRASTRUCTURE

2.1 Water pipelines

United Utilities will not allow building over or in close proximity to a water main.

For any works in the vicinity of water pipelines, including drainage, the applicant must comply with our 'Standard Conditions for Works Adjacent to Pipelines', which can be found on our website: [Working near our pipes - United Utilities](#)

2.2 Wastewater pipelines

United Utilities will not allow a new building to be erected over or in close proximity to a public sewer or any other wastewater pipeline. This will only be reviewed in exceptional circumstances.

Nb. Proposals to extend domestic properties either above, or in close proximity to a public sewer will be reviewed on a case-by-case basis by either by a building control professional or following a direct application to United Utilities (see our website for further details).

2.3 Water and wastewater pipelines and apparatus

A number of providers offer a paid for mapping service, including United Utilities (see Section 4.0 'Contacts' (below)). The position of the underground apparatus shown on water and wastewater asset maps is approximate only and is given in accordance with the best information currently available. Therefore, we strongly recommend the applicant, or any future developer, does not rely solely on the asset maps to inform decisions relating to the detail of their site and instead investigates the precise location of any underground pipelines and apparatus. Where additional information is requested to enable an assessment of the proximity of proposed development features to United Utilities assets, the proven location of pipelines should be confirmed by site survey; an extract of asset maps will not suffice. The applicant should seek advice from our Developer Services team on this matter. See Section 4.0. 'Contacts' (below). United Utilities Water will not accept liability for any loss or damage caused by the actual position of our assets and infrastructure being different from those shown on asset maps.

Developers should investigate the existence and the precise location of water and wastewater pipelines as soon as possible as this could significantly impact the preferred site layout and/or diversion of the asset(s) may be required. Unless there is specific provision within the title of the property or an associated easement, any necessary disconnection or diversion of assets to accommodate development, will be at the applicant/developer's expense. In some circumstances, usually related to the size and nature of the assets impacted by proposals, developers may discover the cost of diversion is prohibitive in the context of their development scheme.

Any agreement to divert our underground assets will be subject to a diversion application, made directly to United Utilities. This is a separate matter to the determination of a planning application. We will not guarantee, or infer acceptance of, a proposed diversion through the planning process (where diversion is indicated on submitted plans). In the event that an

application to divert or abandon underground assets is submitted to United Utilities and subsequently rejected (either before or after the determination of a planning application), applicants should be aware that they may need to amend their proposed layout to accommodate United Utilities' assets.

Where United Utilities' assets exist, the level of cover to United Utilities pipelines and apparatus must not be compromised either during or after construction and there should be no additional load bearing capacity on pipelines without prior agreement from United Utilities. This would include sustainable drainage features, earth movement and the transport and position of construction equipment and vehicles.

Any construction activities in the vicinity of United Utilities' assets, including any assets or infrastructure that may be located outside the applicant's red line boundary, must comply with national building and construction standards and where applicable, our 'Standard Conditions for Works Adjacent to Pipelines', which can be found on our website: [Working near our pipes - United Utilities](#)

The applicant, and/or any subsequent developer should note that our 'Standard Conditions' guidance applies to any design and construction activities in close proximity to water pipelines and apparatus that are no longer in service, as well as pipelines and apparatus that are currently in operation.

It is the applicant's responsibility to ensure that United Utilities' required access is provided within any proposed layout and that our infrastructure is appropriately protected. The developer would be liable for the cost of any damage to United Utilities' assets resulting from their activity.

3.0 WATER AND WASTEWATER SERVICES, METERING AND CHARGES

If the applicant intends to receive water and/or wastewater services from United Utilities they should visit our website or contact the Developer Services team for advice at the earliest opportunity. This includes seeking confirmation of the required metering arrangements for the proposed development. See Section 4.0 'Contacts' (below).

If the proposed development site benefits from existing water and wastewater connections, the applicant should not assume that the connection(s) will be suitable for the new proposal or that any existing metering arrangements will suffice. In addition, if reinforcement of the water network is required to meet potential demand, this could be a significant project and the design and construction period should be accounted for.

In some circumstances a water meter must be installed to premises. Detailed guidance on whether the development will require a compulsory meter is available on our website within our published Charges Schemes; [Our charges 2024/25 | United Utilities](#) (Section 8.7).

To avoid any unnecessary costs and delays being incurred by the applicant or any subsequent developer, we strongly recommend the applicant seeks advice regarding water

and wastewater services and metering arrangements, at the earliest opportunity. See Section 4.0 'Contacts' (below).

To promote sustainable development United Utilities offers a reduction in infrastructure charges to applicant's delivering water efficient homes and draining surface water sustainably (criteria applies). Further information can be found on our website: [Sustainability - United Utilities](#)

Business customers can find additional information on our sustainable drainage incentive scheme at [Incentive schemes | United Utilities](#)

4.0 CONTACTS

For advice on your development contact our **DEVELOPER SERVICES** team as follows:

Website (including 'Live Chat'): [Building & Developing - United Utilities](#)

Email:

WATER (water mains, supply and metering):	DeveloperServicesWater@uuplc.co.uk
WASTEWATER (public sewers and drainage):	SewerAdoptions@uuplc.co.uk
SLUDGE PIPELINES:	DeveloperServicesWater@uuplc.co.uk

Telephone (Monday-Friday, 8am-6pm): **0345 072 6067**

PROPERTY SEARCHES (FOR ASSET MAPS):

A number of providers offer a paid for mapping service including United Utilities. For more information, or to purchase a sewer and water plan from United Utilities, please visit [Property Searches | United Utilities](#)

Water and sewer records can be viewed for free at our Warrington Head Office by calling 0370 751 0101. Appointments must be made in advance. Public sewer records can be viewed at local authority offices. Arrangements should be made directly with the local authority.

UNITED UTILITIES LEGAL SERVICES (FOR EASEMENT DOCUMENTS):

Copies of relevant deeds may be purchased from United Utilities Legal Services. This information is also available from Land Registry.

To purchase a copy of easement documents from United Utilities, please email: LegalServices@uuplc.co.uk



WARRINGTON

Borough Council

Professor Steven Broomhead
Chief Executive

Steve Park
Director of Growth

merseytidal@planninginspectorate.co.uk

16th October 2024

Your ref: EN0110006

Our ref: 2024/01193/SCO

Please ask for: Colette Redman

Dear Sir/Madam

Statutory Consultation under Section 42 of the Planning Act 2008 (“the Act”) (as amended) and the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11

Location: Mersey Tidal Power Project

Thank you for your consultation letter of 19 September 2024 commencing the statutory consultation in relation to the proposed scope of the Environmental Statement for the Mersey Tidal Power Project.

The Council has reviewed the information and would like to raise the following matters for consideration by the Planning Inspectorate:

Water Resources/Natural Resources/Pollution

The proposals have the potential, if not managed properly, to result in the following significant effects:

1. Increased flood risk to Warrington.
2. Pollution to nearby watercourses and waterbodies.
3. Historically important features could be adversely affected such as the Sankey Canal. Water is abstracted from the Sankey Canal to replenish losses and maintain water levels within the canal. Abstraction is not permitted for a period of 2 hours either side of high tide due to salinity levels. Alteration to salinity levels or the tides could impact the existing small pumping window. This may mean there would be insufficient time to pump the required

volume of water into the canal resulting in it drying up, which would cause significant ecological damage.

4. The hydraulic performance of existing drainage systems could be affected due to potential changes in tides. Drainage system outlets may be submerged for longer periods of time depending on the operational regime of the barrage, which will affect their ability to discharge.

5. Businesses which abstract water from the River Mersey within Warrington may be adversely affected due to potential changes to tide, salinity, water quality and water availability.

6. The operation of the Fiddlers Ferry Marina may be affected due to ability of the lock to be used between the marina and the River Mersey.

7. Erosion of the upstream banks through higher water velocity as a result of flush rate during operation. It is understood by the Council that some areas adjacent to the river are heavily contaminated from past industrial uses and this contamination could be released should erosion occur.

WBC consider that any future EIA report will need to consider the above issues, recognising that significant affects may arise and that suitable mitigation through sensitive design and other best practice measures will be necessary. We do not at this time have specific comments to make regarding the information provided in the scoping opinion in this respect.

Ecology/Biodiversity

Designated Sites

The proposals have the potential to cause significant impacts to a number of internationally important wildlife sites. In Warrington, the Upper Mersey Estuary is designated as an important Local Wildlife Site as it supports important habitats and waterbirds associated with the nationally designated sites. This Local Wildlife Site supports the national designations.

Any Environmental Impact Assessment (EIA) of the proposals should include a full assessment of the following:

1. The impacts on the extent and distribution of feeding and resting areas for notable bird communities.
2. The impacts on bird movements within and between designated sites.
3. The impacts on food sources by notable bird communities.
4. A Habitats Regulations Assessment (HRA) as required by the terms of the Conservation of Habitats and Species Regulations 2017 (as amended).

Marine Mammals and Fish

Higher numbers of marine mammals and fish have been recorded in the River Mersey in recent years due to recovery from decades of polluting activities. The EIA must plan for ongoing ecological improvements and must fully consider the impacts not just on current populations of marine mammals and fish but on projected increases to these populations resulting from ecological improvements to the Mersey.

Construction Environment Management Plan (Biodiversity)

It is advised that a Construction Environment Management Plan for biodiversity is prepared for the scheme. At least an outline of said plan should be prepared before any applications are determined.

Biodiversity Net Gain (BNG)

BNG will be mandatory for Nationally Significant Infrastructure Projects (NSIP) from November 2025. This may apply to the proposals subject to the forthcoming timescales for the project. Irrespective of this the scheme should aim to deliver improvements to the natural environment, and to wildlife, wherever possible. BNG should therefore be integral to the development throughout. Therefore, a BNG Plan and Habitat Management and Monitoring Plan should be prepared as part of the EIA, or as complementary documents.

Bank Erosion

The project could result in changes to main river flows which could potentially cause bank erosion and sedimentation in Warrington. Bank erosion has the potential to mobilise contaminants into the river, which should be fully considered in any EIA.

Climate Change

It is accepted that the most pressing threat to habitats and species on a global scale is climate change, and that renewable energy has an important role to play in mitigating the effects of climate change. This will be central to the EIA, however, the scheme should still make every effort to reduce the potentially harmful impacts on the natural environment and improve the environment wherever possible.

Transport and Access

It is considered that the use of the Institute of Environmental Management and Assessment (EIMA) Guidelines: *Environmental Assessment of Traffic and Movement (2023)* is appropriate.

Outside of the construction phase it is not considered the scheme would have a material impact on the level of traffic movements within Warrington. It is noted that the construction period is anticipated to be between 7 and 10 years and, whilst it is not expected that there would be any detrimental impacts on the existing transport network (which includes road, rail and waterways) Warrington Borough Council need to be continually engaged in the NSIP process. In particular, this will be necessary with regard to the Construction Management proposals. Full details of work compounds, heavy goods vehicle routing and details of the levels of import/export material will be necessary as part of this.

It is likely that these issues could be addressed by the submission of a Construction Management Plan either as part of any future application or attached by condition to any subsequent permission. The potential for flooding on Warrington's transport network and infrastructure projects will need to be fully addressed as part of any application. Any additional flood risk issues involving the Sankey Canal, Sankey Brook and the River Mersey could adversely impact upon the design and operation of the proposed Western Link Road scheme. The project should therefore take into account any potential impacts on the Western Link in conjunction with the Flood Risk Management Scheme for Sankey Brook being developed by the Environment Agency, which in itself has implications for the Western Link.

Land Use/Future Land Use

The Warrington Local Plan sets out how development in the Borough will take place until 2038. The Local Plan includes site allocations in close proximity to the River Mersey including the Former Fiddlers Ferry Power station which is allocated for a significant amount of employment and residential development to meet the Borough's needs. In addition, to those sites allocated

specifically allocated, the Plan recognises that other sites particularly those in or near the town centre will be important in achieving the new homes to meet the needs of the borough. The proximity of the River Mersey and any implications of the proposed tidal barrier on the future suitability of this land for development should be considered.

Conclusion

The Council kindly request that the information provided is taken into account in the consideration of the Scoping Opinion by the Planning Inspectorate. Should any further information be required as to the methodology, scope and rationale of any future Environmental Statement please do not hesitate to contact Warrington Borough Council.

Yours Faithfully

Colette Redman
Planning Officer

██████████ warrington.gov.uk

Direct Line: ██████████

FAO: Claire Deery, Senior EIA Advisor
Environmental Services
Operations Group 3
Temple Quay House
2 The Square
Bristol
BS1 6PN
merseytidal@planninginspectorate.gov.uk

www.wirral.gov.uk

Date: 16 October 2024

By Email only

Your Ref: EN0110006
Our Ref: DCO/24/01432
Service: Development Management

Dear Ms Deery

I refer to your letter dated 19 September 2024 in relation to the following:

Application by Mersey Tidal Power Project (the Applicant) for an Order granting Development Consent for the Mersey Tidal Power Project (the Proposed Development)

Scoping consultation and notification of the Applicant's contact details and duty to make available information to the Applicant if requested

Wirral Council hereby provide the following comments in relation to the information we consider should be provided in the ES.

EIA Methodology

1. The applicant has submitted an EIA Scoping Report (*Mersey Tidal Power, EIA Scoping Report, Mersey Tidal Power, September 2024*) which has been reviewed and forms the basis for this response.
2. The Environmental Statement that supports the planning application should include the following sections as a minimum:
 - A non-technical summary;
 - Detailed scope of works;
 - Reference to key plans and legislation. It is essential that all relevant guidance and policies be complied with as appropriate;
 - Detailed baseline review (associated with all development issues); and

- Detailed integrated assessment of all environmental impacts. This assessment needs to take into account the nature of impact (importance, magnitude and duration – quantified as appropriate), reversibility of impact, mitigation, monitoring measures (including reference to long-term management and maintenance measures/plans) and residual impacts.

3. It is important that the conclusions of the environmental impact assessment are transparent, and that all information used to draw conclusions is clearly presented and objective (including survey/assessment results) to enable third party verification.

4. The scoping phase of an Environmental Impact Assessment (EIA) presents the best opportunity to ensure that all the environmental impacts of a development are considered at an early stage. The EIA should also make a clear distinction between construction, operational and (if appropriate) decommissioning impacts and include a statement with regard to the phasing and timing of works for all site areas.

5. It is important that an integrated approach is taken to the EIA methodology to ensure consideration of interactions and in-combination effects. In addition, it is necessary to ensure that the results of the assessment are used to inform development design and the master plan.

6. A parameter-based 'design envelope' approach has been adopted for the purposes of EIA Scoping and subsequent Environmental Impact Assessment. The design envelope is to be refined as the Project evolves. At this stage, a maximum envelope has been used, with maximum parameters provided within the Scoping Report where relevant. The assessments contained within the EIA Scoping Report therefore assess a worst-case scenario or present options, including a worst-case option. This is an acceptable approach, although any increases to the parameters would require further assessment.

Chapter 30. Materials and Waste

7. This Chapter has been reviewed. It is noted that further desk-based studies and analysis will be undertaken to review and update baseline information, identify and assess materials and waste receptors in accordance with the prescribed methodology – this is welcomed.

8. Potential affects from disposal and recovery of waste associated with the Project decommissioning have been 'scoped out'. It appears unclear from the EIA Scoping Report whether the barrage will be removed at the decommissioning stage. Some sections of the EIA Scoping Report stating that whole scale decommissioning is not appropriate whilst other sections of the Scoping Report appear to imply that it will be removed. Clarification is required together with further justification for scoping out at this stage should there be the potential for substantial/whole scale decommissioning.

Cumulative Impacts

9. Chapter 31 includes details of the Cumulative Effects Assessment. This appears comprehensive and includes both inter and intra-project effects. A separate chapter is proposed for cumulative effects covering both inter and intra-project effects. Information will be drawn from the individual topic considerations; a consistent approach needs to be adopted to ensure that all cumulative effects are considered.

Chapter 13. Terrestrial Ecology and Biodiversity

10. A number of the EIA Scoping Report chapters feed into the Terrestrial Ecology and Biodiversity Chapter, these have been considered to inform these comments:

- 5. Coastal processes

- 6. Benthic ecology and plankton
- 7. Invasive non-native species
- 8. Marine mammals
- 9. Marine and intertidal ornithology
- 10. Fish and shellfish
- 12. Underwater noise and vibration

11. The following updates to Table 13.1 are required:

Guidance Reference	Required updates
Chartered Institute of Ecology and Environmental Management (CIEEM) (2018, updated 2019) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, and Coastal. Second Edition v1.1.	Amendment of the date and version to the most recent which is April 2022 Version 1.2
Guidelines for Preliminary Ecological Appraisals (PEA): Second Edition (2017)	Inclusion of the author: Chartered Institute of Ecology and Environmental Management (CIEEM)

Designated Sites and Species Records

12. It is noted that no Local Records Centre Record data search was carried out for species records within the scoping area or for non-statutory designated sites. Local Wildlife Sites (LWS) have not been included in this scoping EIA chapter and so have not been assessed. Also, there is no figure showing the locations of these sites.

Embedded Measures

13. A number of amendments are required to the Embedded Measures Table 13.9:

- ID OM5 (line 2) - there is a missing reference to sites of local importance.
- ID OM1 - an outline CEMP is proposed, to be prepared and submitted as part of the ES. It is worth noting that HRA may require elements of the OCEMP to be more detailed to provide sufficient detail for the Competent Authority to assess the HRA.

Likely Significant Terrestrial Ecology and Biodiversity Effects

14. There is a limitation with Table 13.10 under 'Further Data Baseline Requirements' - '*Protected species surveys the presence/likely absence of relevant qualifying species associated with the designated sites.* This covers the designated sites receptors, however, for standalone protected species there are no further surveys included.

Terrestrial Ecology Receptors- Scoping Out

15. Paragraph 13.10.11 states '*It is likely that potential effects associated with the use of the Port and Marine Facilities can be scoped out from further assessment in terms of non-statutory designated sites, freshwater watercourses, and associated species (fish etc.), badger, hazel dormouse, other mammals and reptiles. This is due to those elements not being local to or likely to be found at the Port and Marine Facilities.*' Whilst a number of the species listed above may not be present in these areas, I consider these should not be scoped out at this stage for the following reasons:

- no ecological data is provided for these areas;

- non-designated sites have not been mapped or assessed;
- there is no site-specific construction information regarding the use of these Facilities; and
- with regard to the following statement, '*Whilst there will be some construction activities here associated with the grid connections, in general (cable route, landfall etc.), the existing infrastructure would be utilised at these locations and no further construction activities would be necessary.*' it is unclear whether construction activities will be required.

Biodiversity Net Gain

16. The need for Biodiversity Net Gain is acknowledged within this chapter and it is confirmed that a BNG Strategy and HMMP would be required. However, there is no outline information provided about potential loss of habitats or potential mitigation or compensation at this stage. It is advised that BNG is designed into the options/detailed design stage as early as possible.

Terrestrial Ecology Figures

17. Figure 13.5 Ancient Woodland and Habitats of Principal Importance: There are a number of habitats identified with varying shades of purple which makes it difficult to differentiate between them. There is a habitat entitled '*No main habitat but additional habitats present*'- clarification is required as to what Habitat of Principal Importance this is.

Chapter 7. Invasive Non- Native Species

18. This chapter has been reviewed. Data from NBN has been used for the baseline, however, the Chapter acknowledges both the usefulness of this and also its limitations. The Chapter confirms that further data will be gathered and assessed for the next stage.

19. I have no further comments to make.

Commitments Register (Appendix 3.1)

20. A review of the Commitments Register has been undertaken. It is considered that there should be a review for further chapter cross referencing for the next stage. A number of additional chapters have been suggested due to the relationships between them. A number of amendments are also included:

- ID OM5 (line 2) - there is a missing reference to sites of local importance.
- ID OM8 - Construction Noise Management Plan. Add reference to Chapter 13 Terrestrial Ecology and Biodiversity and Chapter 8 Marine and Intertidal Ornithology.
- ID OM9 - Marine Mammal Mitigation Plan, however this commitment also includes a reference to fish?
- ID 13.6 - Lighting Strategy references Chapter 13 Terrestrial Ecology and Biodiversity and construction only. Operational lighting may have an impact on terrestrial ecology. Also, Construction and Operational lighting may also impact Chapter 8 Marine and Intertidal Ornithology.
- ID 19.10 - Major surface water crossings for the grid connection will be designed to minimise disruption to hydrological processes and riparian and aquatic habitats. Chapter 13 (Terrestrial Ecology and Biodiversity) to be added.
- ID19.11 - Direct grid connection within 10m of a water courses. Chapter 13 Terrestrial Ecology and Biodiversity to be added.
- ID 19.12 - Works within 10m of water course for grid connection. Inclusion of Chapter 13 Terrestrial Ecology and Biodiversity plus for Construction and Decommissioning .
- ID 21.1 - Air quality . Add reference to Chapters 13 Terrestrial Ecology and Biodiversity and Chapter 9 Marine and Intertidal Ornithology.

- ID 22.2 - Target design criteria for operational fixed plant equipment. Add reference to Chapters 13 Terrestrial Ecology and Biodiversity and Chapter 9 Marine and Intertidal Ornithology.
- ID 23.7 - Routing of Grid Connection through agricultural land. Add reference to Chapter 9 Marine and Intertidal Ornithology in regard to potential Functionally Linked Land.
- ID 25.6 - '*Avoid use of open cut cable line techniques across sensitive habitat such as rivers and streams. Use of Horizontal directional drilling (HDD) techniques to be employed to avoid significant impacts on sensitive landscape receptors.*' Chapter 25 Seascape, Landscape and Visual is included only. Chapter 13 Terrestrial Ecology and Biodiversity should be added.

General Observations on the Scoping Report

21. I make the following general observations:

- Volumes (2a, 2b and 2c) all have the same index of Figures although they refer to different chapters.
- Volume 3 Appendices – the contents page numbers do not match appendices page numbers reports within.
- The word RAMSAR is in the following paragraphs of the Scoping Chapters reports: 2.3.18, 19.7.15, 23.6.32, 23.6.66, 23.6.98, and 23.7.4) and it is noted that this word is not an acronym and should be written as Ramsar.
- There is no reference to Marine Net Gain. It is advised that this, along with Biodiversity Net Gain, should be taken into consideration at the earliest stage possible so these can be incorporated into the design of the overall project.

Habitat Regulations Assessment (HRA)

22. The proposed Mersey tidal barrage is to be located at a currently undefined location within the Mersey Estuary. The development site is within the following national and international sites located within Wirral. These sites are protected under the Conservation of Habitats & Species Regulations 2017 (as amended) and UDP/Local Plan/Core Strategy policies NC1, NC2 and NC3 apply:

- Mersey Estuary SPA;
- Mersey Estuary Ramsar site;
- Mersey Narrows and North Wirral Foreshore SPA;
- Mersey Narrows and North Wirral Foreshore Ramsar site;
- Dee Estuary SAC;
- Dee Estuary SPA;
- Dee Estuary Ramsar site;
- Liverpool Bay SPA

23. The EIA scoping includes Habitats Regulations Assessment (HRA) Test of Likely Significant Effects (Appendix 3.3).

24. The project is also close to the following SSSI located within Wirral, which are of relevance due to overlapping designation features with the internationally designated sites and Local Plan policy NC3 applies:

- Mersey Estuary SSSI;
- New Ferry SSSI;
- Mersey Narrows SSSI;
- North Wirral Foreshore SSSI;

- Dee Estuary SSSI;
- Red Rocks SSSI;
- Dee Cliffs SSSI; and
- Inner Marsh Farm SSSI.

25. As a general point many fundamental project elements are yet unknown, such as barrage location, water levels, connection points. In addition, much of the survey evidence base which will be required to inform the HRA such as non-breeding bird survey or benthic and plankton surveys are currently on going. Therefore, the HRA is currently relatively broad and lacks much of the detailed evidence base that is required for a full HRA.

26. A number of the EIA Scoping Report chapters feed into the HRA, these have been reviewed and inform these comments, these include:

- 5. Coastal processes
- 6. Benthic ecology and plankton
- 7. Invasive non-native species
- 8. Marine mammals
- 9. Marine and intertidal ornithology
- 10. Fish and shellfish
- 12. Underwater noise and vibration

27. The HRA identifies and assesses designated sites which are designated for marine element such as fish and marine mammals. We defer to the relevant marine and fisheries organisations and experts on these matters.

General overarching comments on the HRA

28. It appears unclear from the EIA Scoping Report whether the barrage will be removed at the decommissioning stage. Some sections of the EIA Scoping Report stating that whole scale decommissioning is not appropriate whilst other sections of the EIA Scoping Report appear to imply that it will be removed. Clarification is required. The EIA Scoping Report and HRA discuss decommissioning, both state that whole scale decommissioning is not appropriate given the length of operational life and the environmental equilibrium which will have established during this time. However, is no guarantee that any environmental equilibrium will be positive or neutral against the current baseline at the Mersey Estuary scale (accepting that some compensation may have been delivered). There currently seems to be no commitment to look at restoration options based on the outcome of monitoring over the operational phase of the development. Restoration to a positive equilibrium should be the goal. A decommissioning plan which includes a commitment to review decommissioning options and return the estuary to a positive state is required. In addition, if there is no commitment to remove the barrage, who will be responsible for its maintenance given it will be partly located within Wirral? The EIA scoping states that decommissioning timescales are just twelve months which seem optimistic.

29. The HRA correctly identifies the relevant internationally designated sites within and around the Mersey Estuary, the Liverpool City Region including Wirral. Designated sites from the wider UK and Ireland are included within the HRA Test of Likely Significant Effects (TOLSE), however they are screened out based on maximum foraging distances. However, I consider that as impacts to designated sites and available mud and sandflats during construction and operation of the barrage are not known they should not be screened out. The barrage may result in reduced bird carrying capacity of the Mersey Estuary SPA and Ramsar sites and as a result birds may be displaced to other estuarine and coastal sites within the UK and Ireland, or require compensation within other estuarine

and coastal sites. Consideration of displacement of birds to other sites is required within the HRA. This also relates to the in-combination scope which is discussed below.

30. The EIA scoping chapters address likely significant effect (LSE) and state that they will consider only those impacts where there is a risk of a likely significant effect in EIA terms. Measures of magnitude and significance of impact in EIA terms are also discussed. How are HRA thresholds of LSE and impacts to site integrity to be measured and how will these align with EIA measures of significance? The ES will need to ensure integration with LSE in HRA terms and ensure that any LSE scoped out in EIA terms are not automatically discounted from the HRA.

31. In combination assessment has been undertaken and concludes no likely significant in combination effects. This appears to be premature given the lack of project details and currently incomplete evidence base. In addition, at such an early stage of the project all relevant plans and projects are not known. The in-combination assessment states that a full planning search was not undertaken. The in-combination assessment currently has gaps and the following plans and projects should be scoped into the in combination assessment:

- Local Plans for Halton, Sefton, West Lancashire, Fylde and Cheshire West as all are within the study area;
- Liverpool airport expansion – this has the potential for in combination effects due to the potential loss of functionally linked land associated with the Mersey Estuary SPA and Ramsar and potential compensatory habitat requirements.
- Relevant Shoreline management plans.

32. Project details are not yet known and therefore impacts to the designated sites within and around the Mersey Estuary in terms of bird carrying capacity are also unknown. Therefore, the scope of the in-combination effects needs to be widened to other estuary development around the UK and Ireland where they are designated or provide Functionally Linked Land (FLL). Currently the scope of in combination TOLSE is only 30km for NSIPs which is not considered to be sufficient. This will be particularly important if HRA progresses to the assessment of alternatives stage.

HRA detailed comments

33. Initial hydrodynamic modelling indicates that changes to the extent of the intertidal zone would primarily be upstream of the Project with minimal changes in extent seaward of the barrage. Given the location of the barrage is currently unknown there is potential for upstream impacts to the mud and sand flats within Wirral and its associated internationally designated sites.

34. The barrage scheme proposes to provide active travel providing a source of recreation and tourism. The potential for recreational pressure on the Mersey Estuary SPA and Ramsar sites, Mersey Narrows and North Wirral Foreshore SPA and Ramsar sites and Dee Estuary SAC, SPA and Ramsar sites is not considered. This is a particular issue for Wirral as the barrage may link to existing recreational paths along the eastern Wirral coastline. In addition, the barrage may bring areas currently not accessible or increase visits to the coast. Recreational pressure needs to be scoped into the HRA TOLSE.

35. The need for any compensation for HRA or BNG impacts is not considered as part of the TOLSE. Will for instance Functionally Linked Land farmland be required to create wetland to offset any impacts to designated sites and where will BNG offsite requirements be located?

36. HRA presence of artificial lighting only considers maintenance vehicles and vessels and does not consider lighting of the barrage during operation.
37. An outline CEMP is proposed, to be prepared and submitted as part of the ES. It is worth noting that HRA may require elements of the OCEMP to be more detailed to provide sufficient detail for the Competent Authority to assess the HRA.
38. Zone of influences of 10km and 20km are used, however these need to be fully evidenced and species specific.
39. Review of supporting chapters identified the following which need consideration within the HRA:

Chapter 5. Coastal processes

40. The coastal process chapter will be key to understanding and assessing impacts to designated sites under HRA. Studies, surveys and modelling should ensure that they provide sufficient evidence base to inform HRA.
41. The coastal processes chapter states that modelling undertaken using *E. coli* as an indicator for sewage behaviour in the Mersey Estuary during a storm event showed significant increases in concentration of this tracer compared with baseline for some barrage scenarios. This has implications for Wirral in terms of water quality and impacts to areas of the Mersey Estuary SPA and Ramsar within Wirral. The Scoping Report states that as sewage discharges are likely to be one of the principal sources of inorganic nutrients (particularly nitrogen and phosphorus) entering the impounded area created by the barrage, the potential for changes in nutrient concentrations in the estuary as a result of the Project will be assessed. Changes in nutrient concentrations combined with a reduction in suspended solids concentrations, may affect phytoplankton growth. This may impact on prey items within the designated sites and should be assessed within the HRA. The HRA should also consider how might other sewage pollutants could impact on prey and qualifying species.
42. The coastal processes chapter also notes that the barrage could result in changes in retention time of estuary water, leading to settlement of suspended solids increasing water clarity, leading to increased phytoplankton growth. This has implications for water quality and areas of the Mersey Estuary SPA and Ramsar within Wirral. This has been carried forward into the HRA.

Chapter 6. Benthic ecology and plankton

43. The benthic ecology and plankton ES chapter will consider only those impacts where there is a risk of a likely significant effect in EIA terms. However, this may not be the same as LSE in HRA terms. The ES will need to ensure integration with LSE in HRA terms. Survey effort and assessment of impacts which may be considered LSE in HRA terms should not be scoped out.
44. Table 6-4 provides value criteria for benthic ecology and plankton. High and medium value are defined as features of an internationally /nationally designated site. However, this definition should be widened to those features which support internationally /nationally designated site features. This would ensure populations which support designation features, or these sites are given appropriate weighting even when not specifically identified as a designation feature in their own right but are integral to the designation.
45. Noise and vibration scoped out of ES in relation to benthic ecology and plankton, however, reasoning appears to relate to noise only. The scoping report states (paragraph

6.11.7) that sparse information is available in relation to potential effects of underwater noise and vibration on benthic and plankton species. The scoping predicts these impacts to be short term (<1 year). However, I disagree with this assessment. There are likely to be multiple activities over the construction period of 7-10 years which produce noise and vibration and the cumulative and in combination effects of this on benthic and plankton species requires consideration, particularly as it relates to prey items for qualifying bird species of the designated sites and therefore a HRA issue. I note noise and vibration is scoped into cumulative effects.

46. Chapter 12 Underwater Noise and Vibration states that assessment will be made for marine mammals and fish as published thresholds exist. However, there are no other widely used quantifiable underwater sound pressure level threshold criteria for benthic ecology receptors, any relevant marine ornithology receptors (i.e. diving birds and their subsequent underwater noise exposure), and any other marine users (i.e. human divers and swimmers). Consequently, the potential underwater noise effects on receptors without quantifiable criteria will be addressed qualitatively in conjunction with the respective aspect chapters. Therefore, noise and vibration effects should be scoped in to both the Benthic ecology and plankton and ornithological chapters of the ES. The lack of published thresholds brings in an element of uncertainty in predicting impacts to qualifying bird species and the benthic communities on which they feed. How will this level of uncertainty be addressed by the ES?

47. In relation to noise and vibration I note that a number of embedded environmental measures are proposed, and this is welcomed (Table 12-2).

48. Prey availability surveys commenced July 2024 and will cover a period of 12 to 24 months. How will survey length be determined?

Chapter 9. Marine and intertidal ornithology

49. I note that Natural England has advised on the need for three years of non-breeding bird survey and that they should be used to inform project location and design to ensure the least damaging option. I agree with Natural England advice and the methods proposed by them. Natural England has requested nocturnal surveys. However, the EIA scoping states they have been scoped out as there would be no value in undertaking these surveys, due to foraging activity not being dictated by diurnal patterns. GPS tagging also ruled out. Further discussion with Natural England should be undertaken so that agreement on survey requirements is reached. If Natural England advice is not followed, then clear evidence and reasoning for this should be presented within the ES.

50. Table 9-4 defines conservation value levels and are appropriate, however, it needs to be clear how they relate to HRA tests of Likely Significant Effects and Adverse effects on site integrity. Table 9-5 defines sensitivity; will this be set per species based on available literature. Table 9-6 and Table 9-7 define magnitude and significance, it would be useful to relate these measures to HRA thresholds so there is clear understanding.

51. Table 9-8 lists key sources of data, it includes BTO Webs reports online, does this include full WeBS data search? This would be expected.

52. Table 9-16 lists potential significant effects and scopes them in or out of the ES. I make the following comments:

- Maintenance vehicles and vessels – Noise disturbance is scoped out, however, I do not think it can be at this stage as it will depend on location and proximity to qualifying bird feature roosts and feeding locations.

- Abrasion / disturbance to the substrate is also scoped out. Given lack of certainty on location I do not think it can be at this stage.
- A number of potential pathways from release of contaminated sediments from disturbed bottom sediments are scoped out due to lack of pathway, however, a pathway exists via prey items and therefore should not be scoped out.

53. Project pathways identified for indirect effects on birds resulting from impacts on prey element of (Table 5-7) does not include changes to water flow regime which may impact retention of pollutants such as sewage for longer, or the effects of settlement and potential or increased water clarity.

54. Dredging could contribute towards a marine enhancement project. This should be informed by impacts of the project and ecological requirements.

Chapter 17 Marine Archaeology and Cultural Heritage

55. Paragraph 17.6.2 states “*An initial desk-based review has been undertaken of publicly available data sources...to determine the baseline character of the study area and inform the assessment process*”

56. However, the Merseyside Historic Environment Record (MHER) which is the primary publicly available source of archaeological data has not been consulted. The MHER should be consulted to inform any further assessment.

57. The likely significant effects as presented in Table 17-4 are agreed.

Chapter 18 Terrestrial Archaeology and Cultural Heritage

58. Paragraph 18.6.7 states “*An initial desk based review has been undertaken of publicly available data sources ... to determine the baseline character of the Study Area and inform the assessment process.*”

59. The Heritage Gateway was consulted despite the home page stating “*Please note that local HER records contain much more detailed information than is currently available here. Please contact the relevant authority direct for all planning matters or queries relating to their records.*”

60. However, the MHER which is the primary publicly available source of archaeological data has not been consulted. The MHER should be consulted to inform any further assessment.

61. Table 18-3 *Relevant mitigation measures embedded into the project design* presents a list including ID 18-1 – “*Hazards to known heritage assets, e.g. designated or undesignated significant historic buildings and areas of archaeological remains, ...*” A definition or justification for the use of *significant* in relation to undesignated (non-designated) historic buildings and areas of archaeological remains should be provided.

62. The likely significant effects as presented in Table 18-4 *Potential significant effects and effects scoped out of assessment* are agreed.

63. However, Section 18.10.4 discusses decommissioning stage effects and considers that “*For buried heritage assets, the main impact would occur during construction stage (excavation of the cable trench and working width). Additional further impact through decommissioning is unlikely and therefore the effects are considered insignificant.*”

64. The accuracy of this statement cannot be proven prior to the assessment and investigation of the archaeological resource and detail of the decommissioning works is presented.

65. Very limited archaeological information has been provided at this stage and insufficient data to determine whether archaeology should be scoped in or out of the EIA. However, the suggestion of the presence of prehistoric findspots, evidence of Roman activity and medieval occupation (18.6.7) would suggest archaeology of regional importance could be present and on this basis archaeology should be scoped into the ES. Therefore, the proposal to undertake an archaeological desk-based assessment to inform the EIAR (*Section 18.13.1*) is welcomed.

66. I advise that the desk-based assessment (including a walkover survey) should determine the significance of any archaeology present through a statement of significance and assess the impact of the proposed development on that significance. The potential for previously unknown archaeological remains should also be assessed.

67. The scope of the DBA should be agreed with the MEAS Planning Archaeologist. It should include the Prehistoric through to the Industrial and Modern Periods. The results of the DBA should be used to inform further advice and action to avoid or mitigate, loss or damage to any significant archaeological remains. This might include requirements for further investigation of the site, whether by means of non-intrusive (i.e., geophysical survey) or intrusive (trial trenching) archaeological techniques. MEAS will be able to provide further advice once the DBA has been submitted.

Yours sincerely,

A solid black rectangular box used to redact the signature of Steven Lacey.

Steven Lacey
Development Management Manager