Table 5.3: Pre-application consultation comments and locations in the ES where they have been addressed

Content	Comment	Response and where addressed in ES
Special Areas of Conservation with marine mammal features	We have concerns that an adverse effect on marine mammals, as Annex II features of SACs, cannot be ruled out based on the information provided. As explained below, we advise that additional information is needed to demonstrate that the proposed works will not affect SACs with marine mammal features. Due to the mobile nature of marine mammal features of SACs, it is accepted that they do not stay within site boundaries. Where there is a potential and credible effect on the conservation objectives of a site, then there would be a need to consider offsite impacts. We consider that the appropriate scale at which to consider offsite impacts for marine mammals is the relevant species-specific Marine Mammal Management Unit (MMMU). We consider SACs within an MMMU to be 'functionally linked' to the surrounding sea because evidence demonstrates a degree of connectivity between SACs and the wider area, and because SACs represent special areas of sea within the MMMU.	SACs with marine mammal features within the Celtic and Irish Sea MMMU have now been assessed in Chapter 9 Biodiversity, Section 9.7.
Special Areas of Conservation with marine mammal features	We have considered the ES and the Report to Inform the Habitats Regulations Assessment (HRA) (Mott Macdonald, August 2021) and advise that the following matters should be addressed. We refer you to Annex 1 below for our detailed comments with respect to marine mammals. • Underwater noise has not been assessed as a pathway of impact (for injury and disturbance) in the HRA despite evidence from Appendix 9.10 – Underwater Noise Assessment (100-374-MMD-00-XX-RP-N-0037) that this is a credible impact from the project works; • Marine mammals have not been assessed in the HRA despite the presence of a credible impact pathway considered to have a Likely Significant Effect (underwater noise, evidenced by Appendix 9.10); • Disturbance from underwater noise has not been assessed as a pathway of impact in the EIA; • NRW's previous comments regarding the use of Marine Mammal Management Units (MMMU) have not been taken into account in the assessment (EIA Scoping Opinion (ref: CAS-147078-N5H8 (19/05/2021)).	Underwater noise has been assessed in the HRA (ES Volume 2: Technical Appendix 9.1) and the relevant MMMU taken into account in both the HRA and ES (Chapter 9 Biodiversity, Section 9.7). The updated assessment contained within Appendix 9.10 demonstrates that underwater noise from dredging and associated operations presents a low risk of injury to either fish or mammals. This assessment does not directly address what constitutes a 'credible impact' but rather asserts that there is low risk associated with the activity, which is the approach that has considered in underwater noise impact studies for the Scheme. This assessment was based on the distances at which temporary threshold shift (recoverable hearing loss) or permanent threshold shift (hearing injury) would arise and assuming that animals remained in situ at the specified distance whereas healthy animals affected by the noise

Content	Comment	Response and where addressed in ES
	We advise that the above matters are addressed and provided as additional information in support of any formal planning application. Please note, it will be for the Local Planning Authority (LPA) to decide if this information is required to inform their HRA, or whether they consider this aspect of the marine works to be more appropriately assessed as part of the Marine Licence application.	would likely swim away from the source and therefore the animals would need to start at locations even closer to the source for the TTS or PTS thresholds to be exceeded. In this sense the assessment is highly conservative in terms of the distances at which effects arise.
Menai Strait and Conwy Bay SAC	The Menai Strait and Conwy Bay SAC is located 3.5km from the proposed works. The Report to Inform the HRA states that the pathways for potential effects on the SAC include changes to water quality and invasive species. We agree that any effects on marine water quality are likely to be temporary and of low magnitude if best practice methodology is followed during construction and beach recharge works. We would advise the LPA that a detailed Construction Environmental Management Plan (CEMP) should be agreed to their satisfaction, in consultation with NRW, as a condition of any planning permission. Based on the inclusion of the condition below, we would advise the works are unlikely to have significant effects on the Menai Strait and Conwy Bay SAC, alone or in-combination with other plans or projects. Condition 1: CEMP No development, including site clearance, shall commence until a site wide Construction Environmental Management Plan (CEMP) has been submitted to and approved in writing by the Local Planning Authority. The CEMP should include: ● Construction methods: details of materials, how waste generated will be managed; ● General Site Management: details of the construction programme including timetable, details of site clearance; details of site construction drainage, containments areas, appropriately sized buffer zones between storage areas (of spoil, oils, fuels, concrete mixing and washing areas) and any watercourse or surface drain. ● Biodiversity Management: details of invasive species management; ● Resource Management: details of fuel and chemical storage and containment; details of waste generation and its management;	Please see ES Volume 2: Technical Appendix 17.3 for the first iteration (design phase) EMP. Condition 1 has been added to the Record of Environmental Actions and Commitments (REAC) table in the EMP. The appointed contractor would have responsibility for developing the first iteration EMP into a full CEMP in consultation with CCBC and NRW.

Content	Comment	Response and where addressed in ES
	• Pollution Prevention: demonstrate how relevant Guidelines for Pollution Prevention and best practice will be implemented, including details of emergency spill procedures and incident response plan. • Details of the persons and bodies responsible for activities associated with the CEMP and emergency contact details. The CEMP shall be implemented as approved during the site preparation and construction phases of the development. Justification: A CEMP should be submitted to ensure necessary management measures are agreed prior to commencement of development and implemented for the protection of the environment during construction	
Liverpool Bay Special Protection Area	The proposal is located adjacent the Liverpool Bay SPA, which has been designated for its ornithological interest. We agree with the conclusions of the HRA that the works are unlikely to have adverse effects on the Liverpool Bay SPA alone or in-combination with other plans or projects. This is on the basis that the beach recharge works will take place outside the overwintering period for the relevant site features (October to March). We would advise the LPA that the Report to Inform the HRA must be included on the condition identifying approved plans and documents. We would also advise (see Condition 1 above) that the CEMP should include detailed pollution prevention measures.	Noted. The appointed contractor would have responsibility for developing the First Iteration (design phase) EMP into a full CEMP in consultation with CCBC and NRW.
Traeth Pensarn Site of Special Scientific Interest (SSSI)	The ES confirms that the pipeline construction area associated with the beach recharge works will take place outside of the Traeth Pensarn SSSI boundary. Based on the information provided we can confirm that the proposal will not damage the SSSI's special interest features.	Noted.
Flood Risk	We have reviewed the updated Flood Consequence Assessment (Mott Macdonald. September 2021) which forms part of the Environmental Statement. Our previous comments made on the EIA scoping (dated 19/05/2021) have been accepted and addressed and we would generally agree with the following statement made in the Executive Summary of the FCA: *"…The proposed repairs to the existing coastal defences will increase structural resilience and the proposed beach recharge will dissipate wave energy and reduce the frequency of wave overtopping events now and in the future with climate*	Addressed within updated FCA (ES Volume 2: Technical Appendix 11.5). Noting that the revised TAN 15 has been delayed until Summer 2023.

Content	Comment	Response and where addressed in ES
	change. This is an improvement against the current day baseline conditions (i.e. the predicted flooding would be worse if the Scheme was not to go ahead)…." The FCA has been based on the current TAN15: Development and Flood risk (2004). As your Council will be aware any planning decisions made post 01/12/2021 should be based on the Technical Advice Note 15 Development, flooding, and coastal erosion (December 2021). Having reviewed the content and considered both versions of the TAN, we are satisfied that the risks are acceptable for both Notes and accept that the proposal is that of a Water compatible development. The existing crest heights are being maintained and the only buildings are those of (open and raised) shelters which are above the still water levels for the design event. We would, however, advise that reference to the Flood Risk Assessment Wales maps are not appropriate for the FCA, and that the Development Advice maps (TAN 15: 2004) or Flood Map for Planning (TAN15: 2021) should be referenced. The latter includes allowances for climate change whereas the DAMs/FRAW do not.	
Flood Risk	It is noted that the northern extent of the scheme is within a serviced Flood Warning area provided by NRW, it is likely that NRW will need to revise the current triggers used to issue flood warnings. They are currently related to a combination of water level/ overtopping rates and/or overtopping volumes. We shall continue to base our warnings on existing trigger levels until any scheme has secured all necessary permissions and has been constructed. We can therefore agree with the content of the FCA and support the suggestion of CCBC compiling a Flood Management Plan (FMP) for the frontage and suggest further discussions with NRW regarding future flood warning arrangements for the existing serviced area and a possibility of providing a specific warning for the Colwyn Bay frontage. This would require future discussions from your colleagues in the Flood Risk and Infrastructure team and NRW's Warning and Informing team.	Addressed within updated FCA (ES Volume 2: Technical Appendix 11.5). Noting that the revised TAN 15 has been delayed until Summer 2023. Recommendation included within the First Iteration (design phase) EMP REAC table.
Land Contamination	We have reviewed the Colwyn Bay Waterfront Coastal Defence Phase 2B Ground Investigation Report July 2021 (Appendix 17.2) from Mott Macdonald. Based on the information provided in the above report and supporting information we consider that the potential environmental risks arising from the scheme appear largely to be associated with preparing the areas where the proposed works are planned to take	Noted. The First Iteration (design phase) EMP would be updated to form the CEMP by the appointed contractor. Condition 2 and 3 have been included within the First Iteration EMP REAC table.

Content	Comment	Response and where addressed in ES
	place and the construction works themselves. These activities may occur within Made Ground (which has not been chemically characterised but has not yielded visual or olfactory evidence for contamination during the site works) and could also encounter unsuspected contamination that has occurred through the activities of local businesses. The vast majority of potential risks from development works such as those described would generally be managed and controlled by a bespoke Environment Management Plan and CEMP which are written to reflect the environmental risks associated with the particular proposed works described above. These include the potential that local water quality could be affected by uncovering Made Ground and/or local contamination, spillages of chemicals used during the proposed works or increased sediment loading through runoff. These contamination sources could affect the marine environment. It is particularly important that the bespoke CEMP for the site is written in such a way as to outline in very clear terms how a particular issue/scenario will be practically managed/mitigated notably because the locale within which the proposed works will take place is sensitive, dynamic and of high profile. It is unknown if hydrocarbons have been released to the local environment from nearby business (e.g. garage) or other local areas such as parking areas. Hydrocarbons and metals may be absorbed onto soil particles or could be present in dissolved phases which makes the hydrocarbons and metals more mobile and hence more of a risk to the environment. If unknown contamination is encountered during development works, the scale and nature of the contamination must be understood, and any remediation must be agreed with the local authority. This is particularly important as the site is both dynamic in terms of social use but also in terms of the water environment notably with respect to rainfall, tidal changes, and storm surges. It is particularly important that the weather is closely monitored and that if site preparation works are underway, that the site can be temporarily mothballed in such a way that potential environmental and contamination risks are reduced as much as is practically possible and until the weather improves. In light of the comments above, we would advise the LPA to apply the following conditions as a condition of any planning permission. **Condition 2**: Unsuspected Contamination	

Content	Comment	Response and where addressed in ES
	If, during development, contamination not previously identified is found to be present at the site then no further development (unless otherwise agreed in writing with the Local Planning Authority) shall be carried out until a remediation strategy detailing how this unsuspected contamination shall be dealt with has been submitted to and approved in writing by the Local Planning Authority. The remediation strategy shall be carried out as approved. Justification: To ensure the risks associated with previously unsuspected contamination at the site are dealt with through a remediation strategy, to minimise the risk to both future users of the land and neighbouring land, and to ensure that the development can be carried out safely without unacceptable risks. **Condition 3**: Surface water drainage No infiltration of surface water drainage into the ground is permitted other than with the express written consent of the local planning authority, which may be given for those parts of the site where it has been demonstrated that there is no resultant unacceptable risk to controlled waters. The development shall be carried out in accordance with the approval details. Justification: To prevent both new and existing development from contributing to or being put at unacceptable risk from or being adversely affected by unacceptable levels of water pollution.	
European protected species	We note that the ES states in table 9.12 that "two buildings were identified as having low bat roosting potential within the survey area (a toilet block and kiosk). An emergence survey did not record any use by roosting bats". Bats and their breeding and resting places are protected under the Conservation of Habitats and Species Regulations 2017. Based on the information provided in the ES, we consider that the proposal would not be likely to be detrimental to the maintenance of the population of bats at a favourable conservation status in its natural range.	Noted.
Waste	The degree to which waste materials will be interacted with and hence need management on the proposed development site must form part of the CEMP (see condition 1 above). Similarly, any materials imported to the site must be assessed for environmental quality so that contaminants are not emplaced within the site.	Noted. The appointed contractor would have responsibility for developing the First Iteration (design phase) EMP into a full CEMP in consultation with CCBC and NRW.

Content	Comment	Response and where addressed in ES
	The treatment and disposal of contaminated soils and groundwater is regulated by waste legislation and requires an environmental permit, under Environmental Permitting Regulations 2016. Excavated materials that are recovered via a treatment operation can be re-used on-site under the *CL:AIRE Definition of Waste: Development Industry Code of Practice*. This voluntary Code of Practice provides a framework for determining whether or not excavated material arising from site during remediation and/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, Natural Resources Wales should be contacted for advice at an early stage to avoid any delays.	
Other Matters	Please note, if further information is prepared to support an application, it may be necessary for us to change our advice in line with the new information. Our comments above only relate specifically to matters included on our checklist, Development Planning Advisory Service: Consultation Topics (September 2018), which is published on our website. We have not considered potential effects on other matters and do not rule out the potential for the proposed development to affect other interests. In addition to planning permission, you are advised to ensure all other permits/consents/licences relevant to the development are secured. Please refer to our website for further details. Further advice on the above matters could be provided prior to your planning application being submitted, however there would be a charge for this service. Additional details are available on our website.	Noted, with thanks for the guidance and comments provided.
Advice for the developer (Land contamination / Groundwater)	We recommend that the developer should: • Follow the risk management framework provided in CLR11, Model Procedures for the Management of Land Contamination, when dealing with land affected by contamination; • Refer to the Environment Agency's 'Guiding Principles for Land Contamination' for the type of information that we require in order to assess risks to controlled	Recommendation included within the First Iteration (design phase) EMP REAC table. We would note that current best practice guidance on managing risk from contaminated land is provided in Land Contamination Risk Management which has superseded CLR11

Content	Comment	Response and where addressed in ES
	waters from the site. The Local Authority can advise on risk to other receptors, such as human health; and • Refer to the Environment Agency's (2017) 'Approach to Groundwater Protection'. It does not appear that climate change notably from predicted sea level rise (SLR) in the locale of the proposed works will affect local groundwater levels to a sufficient degree that these levels could become sufficiently shallower to result in increased risks to infrastructure e.g. hydrostatic uplift/heave or contamination migration. Tidal influence has not been assessed as part of Geotechnical investigations to date, but it is assumed that this dynamic would be considered as part of detailed design works. It may be that tidal influence is not an important factor for the works being proposed. It is also assumed that potential corrosion risk increases from changes to saline intrusion arising over time would also be considered as part of detailed design	
Annex 1		
Marine Licencing	A number of elements of this project will also require a Marine Licence. For completeness we have included comments in this regard while acknowledging that it is a separate regulatory process. Please note it would for the LPA to determine whether marine mitigation measures should also be secured through the planning regime. We advise that you consult with our Marine Licencing Team regarding outstanding marine matters.	Noted. Marine Licence application for the Scheme has already submitted.
General Comments	Section 4.1.1 of the Environmental Statement (ES) states that "The below is a preliminary, outline methodology based on current best understanding and is subject to amendment, consent and construction stage contractor methodology and risk assessments". We advise that the provision of detailed designs, construction method statements and construction programme may need to be conditioned as part of any Marine Licence to allow validation of the assessment in the ES. Section 4.1.2 of the ES states "Detailed design of the Scheme would be complete by Summer 2021". We request that this information is provided for review once available.	Noted. Recommendation included within the First Iteration (design phase) EMP REAC table.
Marine Benthic Ecology	Key Issues	The intertidal biotope report covers the entire Colwyn Bay frontage, to include the Old Colwyn Coastal defence

Content	Comment	Response and where addressed in ES
	• Sabellaria alveolata reef presence (Section 7 Habitat of Principle Importance – Environment Wales Act 2016). We question the assessment of Sabellaria alveolata present in Area 2b, where it is described as 'degraded'. Based on the images presented in the Intertidal Biotope Survey Report the habitat would appear to qualify as 'reef' feature. • Clarification is sought on what is meant by 'Appropriate recharge method statements' in relation to avoiding damage/loss of Sabellaria alveolata reef habitat present in Area 2b. • We acknowledge the inclusion of marine invasive non-native species as part of the assessment and completion of a Biosecurity Risk Assessment (Appendix 9.9) – Clarification as to the source/location of the dredge beach nourishment material and whether any vessels used in the planned proposal will utilise hopper water as ballast - if so, how will this be managed in the context of marine invasive non-native species (INNS) and biosecurity. • We can agree with the conclusions of the ES and Habitats Regulations Assessment (HRA) with respect to the Y Fenai a Bae Conwy / Menai Strait and Conwy Bay Special Area of Conservation (SAC).	frontage (within which *Sabellaria alveolata* has also been recorded). Please refer to Figure 3.24 of the Intertidal Biotope Survey Report (Appendix 9.4) for details of the patchy, degraded Sabellaria alveolata located within the Scheme area. Regarding the appropriate recharge method statements, this has been reworded for clarification throughout. Details of the beach recharge have been provided in Chapter 4 Scheme Construction, Section 4.3. Sand would be sourced from a licensed commercial dredging area. Response from early engagement contractor regarding hopper water as ballast indicates that hopper water is not used as ballast. This has been included in the EMP.
Detailed Comments – Chapter 9 Biodiversity	Table 9.11: Summary Descriptions of Habitats on Site states that an area of patchy, degraded Sabellaria alveolata formation was recorded at the lower extremity of the lower littoral zone in the Phase 2b area. In the table text the Sabellaria present in the Phase 2b area is described as patchy and degraded and it is stated that the habitat does not currently qualify as a reef. The Sabellaria habitat present on site has been valued at local level in the ES. Based on the images presented in Appendix 9.4 Intertidal Biotope Survey Report (Figures 3.36-3.37) we estimate that the habitat would meet the criteria of 'reef' as defined in the Hendrick 2006, although this document is specifically for Sabellaria spinulosa which is a subtidal species. The criteria is further clarified in NRW guidance note: GN030d (Benthic habitat assessment guidance for marine developments and activities) and summarised in the following text: "*Definition of Sabellaria alveolata reef: A colony of S. alveolata elevated by at least 2cm from the underlying substrate covering at least 10% of an area of 25m2 or more*" (Guidance note template, external (natural resources.wales).	The photos referred to in the intertidal biotope survey report of the *Sabellaria alveolata* are located at Old Colwyn (Phase 3 area) which sits outside of the Scheme RLB. Please refer to Figure 3.24 of the Intertidal Biotope Survey Report (ES Volume 2: Technical Appendix 9.4) for the patchy degraded Sabellaria alveolata located within the Scheme area. The section of littoral rock where the Sabellaria is located is below the proposed beach recharge extent. Please see further justification on the tolerance of *sabellaria alveolata* to smothering in Section 9.7, Table 9.14: Assessment of construction impacts of the Scheme (pre-secondary mitigation).

Content	Comment	Response and where addressed in ES
	Sabellaria alveolata reef is a Section 7 Habitat of Principle importance to Wales (Environment Wales Act 2016). Under section 6 of the Environment (Wales) Act 2016 public authorities that exercise their functions in relation to Wales have a duty to maintain and enhance biodiversity and promote the resilience of ecosystems. The Welsh National Marine Plan, ENV_01 Resilient marine ecosystems, Advice for applicants and decision makers states that relevant planning authorities should satisfy themselves that proposals should demonstrate how potential impacts of marine ecosystems have been taken into consideration and should, in order of preference: a. avoid adverse impacts; and/or b. minimise impacts where they cannot be avoided; and/or c. mitigate impacts where they cannot be minimised. If significant adverse impacts cannot be avoided, minimised, or mitigated, proposals must present a clear and convincing case for proceeding. Proposals that contribute to the protection, restoration and/or enhancement of marine ecosystems are encouraged. It is our understanding from the information presented that the area of moderate energy littoral rock which contains the Sabellaria alveolata reef would be directly affected by the beach recharge works and therefore the likelihood of this habitat being damaged/lost to smothering from sand, as well as the underlying rock habitat to which the Sabellaria alveolata is adhered, would be high (Colwyn Bay Waterfront Project Phase 2b Phase 1 habitat Map; Drawing number 100374-MMD-00-XX-DR-N-0016; central Phase 2b Area). This element is acknowledged in Table 2.3 (Options comparison summary table – anticipated environmental effects), as well as in Chapter 9, Table 9.17 (Assessment of effects summary – construction) and Table 9.18 (Assessment of Effects Summary – Operation). Mitigation measures proposed in relation to potential smothering / asphyxiation due to increased sediment deposition is a “10m buffer zone for construction vehicles and appropriate recharge method statements”. It is unclear what is meant by ‘recharge method statements’ and how this will prevent damage/loss of this habitat given the anticipated elevation in bed level associated with the initial recharge, as well as the fact that it is highly likely that the sediment will move around during the operational phase. Clarification sought as to how this will prevent damage/loss of this habitat. Specific area figures are required for Sabellaria alveolata reef present.	
Detailed Comments –	We acknowledge the inclusion of a Biosecurity Risk Assessment (Appendix 9.9) as part of the current proposal.	Please see response above (marine benthic ecology).

Content	Comment	Response and where addressed in ES
Chapter 9 Biodiversity, INNS	Section 2 of the assessment (Biosecurity Risk Assessment – Marine Vessels/Plant) requires clarification as to whether vessels utilising hopper water (not covered under the ballast water convention) will be used as part of this proposal. If so, exchange of hopper water should adhere to the same measures as ballast water as outlined in the biosecurity risk assessment. We advise that the source and location of the recharge material should be outlined in the 'dredge beach recharge materials' section as well as inclusion of evidence to reinforce the following statement 'The dredged sand will be obtained only from a licenced dredging area and not from an area known to contain marine INNS'. The risks are minimised if the material extraction and redisposition locations occur within the same biogeographic area / sediment cell. We recommend that evidence of this should be demonstrated. Depending on the location and type of marine INNS, it is possible that subtidal species could survive translocation to an intertidal location. This would include potential larval stages of marine INNS that may be translocated onto the recharge site – new rock groyne areas would potentially provide adequate 'new' settlement surfaces for colonisation. However, storage on land for a certain period of time or other treatments, (i.e. washing in freshwater) may potential mitigate/minimise the risks. These should be factored into the biosecurity risk assessment if relevant. Evidence of specific surveys showing absence of potential marine INNS at the aggregate dredge site would be optimal.	Regarding the transportation of subtidal marine INNS, we consider the risk to be minimal given the material is being sourced from a licenced dredging site. The storage of material on land/washing with freshwater is not considered feasible to this project given the volume of sediment proposed for the beach recharge. Best practice mitigation measures for marine INNS have been included in the biosecurity risk assessment (ES Volume 2: Technical Appendix 9.9).
Detailed Comments – Chapter 9 Biodiversity, Marine Mammals	Underwater noise has not been assessed as a pathway of impact (for injury and disturbance) in the HRA despite evidence from Appendix 9.10 – Underwater Noise Assessment (100-374-MMD-00-XX-RP-N-0037) that this is a credible impact from the project works. Marine mammals have not been assessed in the HRA despite the presence of a credible impact pathway probable to be considered to have a Likely Significant Effect (underwater noise, evidenced by Appendix 9.10). Disturbance from underwater noise has not been assessed as a pathway of impact in the EIA.	Underwater noise and marine mammals have now been assessed in the HRA (ES Volume 2: Technical Appendix 9.1) and the relevant MMMU taken into account in both the HRA and ES (Chapter 9 Biodiversity, Section 9.7).

Content	Comment	Response and where addressed in ES
	NRW's previous comments regarding the use of Marine Mammal Management Units (MMMU) have not been taken into account in the assessment (EIA Scoping Opinion (ref: CAS-147078-N5H8 (19/05/2021)).	
Detailed Comments – Chapter 9 Biodiversity, Marine Mammals	Document; 'Colwyn Bay': Applicant's Response to NRW EIA Scoping Report Comments: In response to issue and response number 8 discussing the recommended use of the MMMU approach, we advise that due to the mobile nature of all Annex II marine mammal features of SACs, it is accepted that they do not stay within site boundaries. Where there is a potential and credible effect on the conservation objectives of a site, caselaw supports the need to consider offsite impacts (Moorburg case c-142/16 & Holohan case C-461/17). We generally consider that the appropriate scale at which to consider offsite impacts for marine mammals is the relevant species-specific MMMU. We consider SACs within an MMMU to be 'functionally linked' to the surrounding sea because evidence demonstrates a degree of connectivity between SACs and the wider area, and because SACs represent special areas of sea within the MMMU (Chapman and Tyldesley 2016). Our position statement provides some advice on our recommended approach to conduct a pragmatic Appropriate Assessment (AA).	SACs with marine mammal features within the relevant MMMU have been taken into account in both the HRA (ES Volume 2: Technical Appendix 9.1) and ES (Chapter 9 Biodiversity, Section 9.7).
Detailed Comments – Underwater noise assessment	Based on the description of the works in Chapter 4 (Scheme Construction) we consider there to be a pathway of impact from underwater noise, evidenced by Appendix 9.10 – Underwater Noise Assessment (100-374-MMD-00-XX-RP-N-0037), from beach recharge works. Table 5.2 of the ES details the EIA Scoping Report comments received and the locations in the ES where they have been addressed. We advise that we are unsatisfied by the justification for the difference in approach for the assessment of marine mammals. The applicant states that "it would be challenging to determine if any of the marine mammals belonged to any particular population". As per our advice on MMMU's, there are no discrete 'SAC populations'	Please refer to previous row "Special Areas of Conservation with marine mammal features". Underwater noise and marine mammals have now been assessed in the HRA (ES Volume 2: Technical Appendix 9.1) and the relevant MMMU taken into account in both the HRA and ES (Chapter 9 Biodiversity, Section 9.7).

Content	Comment	Response and where addressed in ES
	for marine mammals, and we consider any area of sea within an MMMU to be functionally linked to the SACs within it. While a lot of works are "mostly terrestrial" there is a viable impact pathway via underwater noise from beach regeneration, as established in Appendix 9.10 – Underwater Noise Assessment (100-374-MMD-00-XX-RPN-0037). NRW's position on the use of MMMUs for screening and assessment in HRAs for SACs with marine mammal features contains advice on how to conduct a proportional appropriate assessment using the MMMU screening approach (NRW 2020). In terms of the zone of influence as detailed in Chapter 9, Section 9.3.3, Table 9.1 as per our comments above we consider MMMUs to be the appropriate spatial scale for the screening of protected sites for marine mammals.	
	Section 9.5.13 of the ES states that "Notably for fauna such as overwintering birds and marine mammals, these have also been assessed for the wider marine habitats north of the Scheme area, as these receptors can be affected by disturbance at a greater distance". We disagree that the zone of influence used in the assessment is sufficient to assess impacts on marine mammals. Our position remains that an MMMU approach should be taken.	Please see response above.
	The assessment with respect to impacts provided in Table 9.14 (page 286) states that "sand deposition presents a low risk of injury to marine mammals" but has not assessed the impact of disturbance from underwater noise and vibration. Disturbance as a pathway of impact from underwater noise and vibration should be assessed if the assessment is to consider the full impacts of the works. Please see our comments on Appendix 9.11 for detailed comments on the approach to underwater noise modelling.	Please see response above.
	Section 9.8 of the ES discussing design mitigation states that "Vessels in transit and manoeuvring in coastal waters are to operate within speeds outlined by Maritime and Coastguard Agency's (MCAs) legislation and guidance. This would indirectly reduce the probability of incidental collisions occurring between marine mammals and working vessels". Additional information of which MGN(s) will be applied and how applicable they are to reducing collision risk is required to consider this as mitigation for this impact pathway. We recommend that use of a suitable Code of Conduct designed for this purpose, such as the WiSe Scheme, should be	The appointed marine contractor would have responsibility for developing the First Iteration (design phase) EMP into a full CEMP in consultation with CCBC and NRW. The recommendations have been included within the EMP REAC table.

Content	Comment	Response and where addressed in ES
	considered for use as mitigation for any collision risk posed to marine mammals. We advise that any such mitigation employed should also be included in summary Table 19.1.	
	We note that Chapter 14 focuses on the terrestrial and human health impacts of noise and vibration. As per section 14.3.4, we have provided detailed comments on Appendix 9.10 – Underwater Noise Assessment (100-374-MMD-00-XX-RP-N-0037) in regards to the approach taken to model underwater noise and on Appendix 9.1 – Habitats Regulations Assessment (100374-MMD-00-XX-RP-N-0008) in terms of the assessment of this pathway. As per our comments on those sections, we consider that Appendix 9.10 demonstrates a viable impact pathway from underwater noise to marine mammals and that this requires satisfactory assessment.	Underwater noise and marine mammals have now been assessed in the HRA (ES Volume 2: Technical Appendix 9.1). Please refer to previous row "Special Areas of Conservation with marine mammal features".
	We note marine mammals have not been included in the cumulative assessment presented in Chapter 18. Sufficient justification should be provided for this omission and if a suitable argument cannot be provided, this receptor should be included.	Marine mammals have now been included within the Cumulative Assessment presented in Chapter 18.
Technical Appendix 9.1 – Habitats Regulations Assessment	As is stated in section 3.2, "sites designated for mobile species such as bats, birds, and marine mammals, could be affected the proposal if those species for which the sites are designated for travel beyond the boundaries of the site and within the zone of influence". In the Table 3.1 of the ES, marine mammals were identified as a 'key environmental receptor' as "the marine habitats could be used occasionally by marine mammals, such as common porpoise, common bottlenose dolphin and grey seal".	N/A
	We do not consider a 10km screening distance sufficient for the screening of marine mammal SACs. It is stated that "A further search for European sites … where marine mammals are a qualifying feature within 10km of the Site, was therefore undertaken in line with DMRB LA 115". It does not appear that this 10km screening distance for marine mammals is included in DMRB LA 115, only the 30km distance for bats. Instead, it appears that DMRB LA 115 point 3.7.2 would apply; "*Additional European sites should be subject to screening where the existence of ecological connectivity between projects and European sites is identified beyond the screening criteria*". We consider the area of sea within the MMMU to be 'functionally linked' to the SACs within it given, in most cases, the evidence demonstrating the degree of connectiveness and the fact that SACs are dependent on the wider population within	SACs with marine mammal features within the relevant MMMU have been taken into account in both the HRA (ES Volume 2: Technical Appendix 9.1) and ES (Chapter 9 Biodiversity, Section 9.7).

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	the MMMU and represent special areas of sea within it (see Chapman & Tyldesley 2016 for information on the concept of functional linkage). The Moorburg case (c-142/16) and the Holohan case (C-461/17) confirm the need to adequately consider offsite impacts, where there is a potential and credible effect on the conservation objectives of a site. For most impact pathways, including those associated with potential injury (such as Permanent Threshold Shift or PTS) from underwater noise such as that posed by the works, NRW consider the MMMU's as the most appropriate spatial scale for assessment of the Test of Likely Significant Effect (screening). For each Annex II marine mammal species, the SACs in Wales within the relevant MMMU we recommend are included are as follows: Harbour porpoise Management Unit: Celtic & Irish Sea Welsh SACs in with harbour porpoise as a feature within the Management Unit: • Gogledd Môn Forol / North Anglesey Marine • Gorllewin Cymru Forol / West Wales Marine • Dynesfeydd Môr Hafren / Bristol Channel Approaches Bottlenose dolphin Management Unit: Irish Sea Welsh SACs with bottlenose dolphin as a feature within the Management Unit: • Pen Llŷn a'r Sarnau / Lleyn Peninsula and the Sarnau • Cardigan Bay / Bae Ceredigion Grey Seal Management Unit: OSPAR Unit III Welsh SACs with grey seal as a feature within the Management Unit: • Pen Llŷn a'r Sarnau / Lleyn Peninsula and the Sarnau • Cardigan Bay / Bae Ceredigion • Pembrokeshire Marine / Sir Benfro Forol	
HRA	The introduction of underwater noise as a pathway of impact in general and to marine mammals in particular has not been included in the assessment of impact pathways (section 4.2). This is an omission. It is clear from Appendix 9.10 – Underwater Noise Assessment (100-374-MMD-00-XX-RP-N-0037) that there is generation of underwater noise from the project, and that this a viable impact pathway to marine mammals. No explanation has been provided for why this	SACs with marine mammal features within the relevant MMMU and the impact of underwater noise have been taken into account in both the HRA (ES Volume 2: Technical Appendix 9.1) and ES (Chapter 9 Biodiversity, Section 9.7).

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	pathway has been excluded from the assessment. This pathway should be assessed in the HRA in order for the assessment to consider the full impact of the works. NRW's position statement on the use of MMMU's contains advice on how to conduct a pragmatic assessment using the MMMU approach.	
Appendix 9.2 – Species Specific Legislation	For full details of the legislation that applies to marine mammals, please see the NRW guidance note on marine vertebrate conservation legislation in Wales available on the NRW website. https://naturalresources.wales/guidance-and-advice/business-sectors/marine/marinevertebrate-conservation-legislation-in-wales	The link provided does not work however, please see ES Volume 2: Technical Appendix 9.2 for the updated species specific legislation.
Appendix 9.3 – Preliminary Ecological Appraisal Report	With regard to the text presented in the executive summary, please see comments provided above regarding screening distances for marine mammal impacts. We note the documented presence of a harbour porpoise within the survey area detailed in the section 4.1.3 Protected Species Records. As per our comments on the other documents, we would consider this animal and any other marine mammal within the MMMU's to be linked to the SACs within the unit.	SACs with marine mammal features within the relevant MMMU and the impact of underwater noise have been taken into account in both the HRA (ES Volume 2: Technical Appendix 9.1) and ES (Chapter 9 Biodiversity, Section 9.7).
Appendix 9.10 – Underwater Noise Assessment	The justification for the use of β = 18 in Section 4.1 (Transmission Loss) appears to be based on information from pile driving in the Baltic (Anderson 2017). Given that the details of the acoustic absorption properties of this part of the north Wales coast are not known, additional evidence to support the applicability of the approach taken and a justification for why a more generic value of β = 15 has not been used is required. Without sufficient evidence that demonstrates comparability of conditions, we have concerns about using this value. A robust approach would be to test a range of β values to quantify the uncertainty and impact of the β value choice. Spectra of the noise sources, rather than just a dB value, would be advantageous in supporting the approach presented, alongside plots of received level vs range. It is stated in Section 5 (Modelling Results) that "*These have been used together with the PTS/injury and TTS criteria for steady noise to estimate the distances at which these effects will arise for 6 hours of beach recharge activity over 24 hours*". The scheme description section 4.3.15 states "*The delivery and placement of sand would be a 24-hour operation anticipated to take around 8 weeks if using a large TSHD*" and the ES section 14.6 Consultation states "T*he contractor confirmed the beach recharge operation would be a 24-hour operation for up to 20 weeks as a*	The assessment provides a detailed justification for the use of β = 18 and in particular notes its provenance in reports from the Environment Agency. The comments go on to suggest that a 'more generic' value of β = 15 could have been used but this also seems somewhat arbitrary given the provenance of β = 18. A range of values could have been tested to quantify the impact of the choice of value for β but this has not been found necessary in previous assessments and it is noted that there would be a moderate risk of change in assessment outcome if a different value had been used – effectively a variation in the distance at which effects arise – but no material change in the conclusion that there would be a low risk of injury to fish or mammals. The commentary associates β with absorption but it is important to note that this term relates to geometric spreading term – the absorption coefficient used in the

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	worst case scenario". Given this, a rationale and justification for assessing impacts of 6 hours of beach recharge activity is required. Evidence is needed to support the statement that "*Dredging sound has been used as a proxy for the sound of sand being pumped to shore due to a lack of data on source levels for the latter. This provides a conservative estimate of effect as dredging sound is considered slightly louder than pumping activity*". We advise that this statement is currently unsupported and so it cannot be established if the approach taken is suitable or precautionary.	assessment is α but at the distances involved in the assessment is not a relevant factor. While sand import operations are a 24 hour activity, the pumping of sand would only occur at high tide. Allowing for two tides per 24 hour period, 6 hours is considered to be appropriate. It is worth noting that while pumping for an extended period would increase the distances at which adverse effects would arise, even increasing to 24 hours of continuous pumping would not materially affect the assessment outcome. The comment on the need for evidence to support the use of dredging sound as a proxy for the sound of sand pumped to shore is noted. This is predicated on an assumption that the sand extraction process is similar but the deposition is not into a floating platform (thus producing more sound) but is onshore producing no underwater sound and hence the approach is conservative.
ES Chapter 9 Biodiversity – Fish Appendix 9.10 – Underwater Noise Assessment	Table 3.1 lists allis shad, twaite shad, sea lamprey or river lamprey as features of the Y Fenai a Bae Conwy / Menai Strait and Conwy Bay SAC. We advise reference to these species is removed from this table. We advise that the underwater noise and vibration assessment for fish in Table 9.14 is updated following our comments on the underwater noise modelling in Appendix 9.10 being addressed. Importantly, the extent of behavioural effects upon fish in Colwyn Bay has not been assessed, given the use of the area as spawning and feeding grounds for many species and the potential resultant displacement from these areas due to the noise. We advise that the effects of increased sedimentation upon fish assessed in Table 9.14 (Turbidity) are not limited to visual feeding and predator avoidance impacts from increased turbidity. Increased suspended sediment concentrations can cause physiological effects upon fish, as well as smothering of the eggs of benthic	Reference to these species have been included in the description for the SAC as this is what the SAC is designated for. The underwater noise assessment determined that underwater noise from dredging and associated operations presents a low risk of injury to either fish or mammals. Effects of increased sedimentation on fish are predicted to be temporary and localised, please see ES Chapter 11 Coastal Processes, Section 11.7. Regarding loss of habitat to benthic spawning fish, no intertidal species spawn intertidally therefore, no impacts to these are anticipated.

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	spawning fish such as sand eels and herring. We advise that these impact pathways from increased sedimentation are assessed. We advise that the loss of habitat for benthic spawning fish such as sand eels (*Ammodytes* spp.) and Atlantic herring (*Clupea harengus*), or benthic species with specific habitat preferences such as European plaice (*Pleuronectes platessa*), beneath the footprint of the new groyne and the outfall extensions is assessed in Table 9.14. The details of these works were not available at the EIA scoping stage of the project.	
Appendix 9.10 – Underwater Noise Assessment	With respect to Section 4.1, there is no data available to set β. Therefore, we advise an approach which tests a range of values to quantify the uncertainty rather than relying on a single figure. The water is very shallow and so the spreading examples from 50m depth may not be comparable. We advise further evidence is provided to justify how the sound levels in Table 5 have been converted to sound levels at 750m distance and 10m distance in Tables 5 and 6. We advise further evidence is provided to justify that dredging noise is appropriate to use as a proxy for debris removal, drilling, probing and ground anchor installation (see Table 6). The threshold conversion based on exposure for Fish: swim bladder is involved in hearing (particle motion detection) is incorrect (see Table 7). Scaling from 48 to 24 hours results in a 3dB rms increase in the threshold but scaling from 12 to 24 hours should result in a 3dB decrease (rather than increase) in the threshold using the same approach. We advise the TTS threshold for continuous sound should be 155dB rms for 24 hours and that the distances are updated to reflect this. It is not clear why the thresholds at 24 hours of exposure have been used rather than at 6 hours in Tables 7 and 8, as the assumption is made that 6 hours of beach recharge activity will occur over 24 hours. We advise the thresholds for continuous sound are updated for 6 hours if relevant and that the impact distances are also updated. The behavioural effects upon fish from noise have not been assessed in Tables 7 and 8. We advise that behavioural effects are assessed to understand changes to	Regarding justification for the reported sound levels, Table 5 estimates the sound levels at 750m. This was carried out using the same 18log(r/750) correction referred to in the previous paragraph of the assessment. The provenance of the estimates in Table 6 is provided in the paragraph above the table: the sound level at 750m is assumed to be 144dB corresponding to the worst case for sea-based dredging. It is further assumed that all this sound is concentrated in the 200Hz band as dredging noise is predominantly a low frequency phenomenon (100Hz to 200Hz). Figure 1 shows the weighting function gain of the mammal groups considered and these provide the lowest attenuation at 200Hz in the 100Hz to 200Hz frequency range and the assessment is therefore conservative with respect to this weighting. The 200Hz attenuation is provided as a column in Table 6. The correction to 10m is provided by the same 18log(10/750) correction (=-34dB) hence the unweighted level at 10m is 144+34=178dB. The weighted value for the other species is the weighting attenuation (3 to 63dB) subtracted from the unweighted level of 178dB. A similar calculation is provided for land-based dredging but based on a Mott MacDonald measured value of 123dB re 1µPa. It is correct that the TTS threshold for continuous sound should be 155dB rms for 24 hours in lieu of the stated

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	behaviour (such as for any spawning or migrating fish in Colwyn Bay) at greater distances from the works.	161dB. This changes the distance at which TTS arises for fish from 116m to 190m (assuming the fish stay in situ and do not swim away). This change in distance corrects the error but does not materially change the assessment outcome. The comments note that behavioural changes have not been assessed in tables 7 and 8. Table 2 shows that there are no quantitative criteria for behavioural change and thus it is not possible to estimate the distances at which these effects arise beyond the distance categories set out in Table 2 classified in terms of risk at near, intermediate and far distances.
Vegetated Shingle Ridge Annex 1 Priority Habitat	The ES describes the construction site area as vegetated shingle ridge and recognises this as an Annex 1 priority habitat, even though the area is outside (and to the west) of the Traeth Pensarn SSSI. We agree with this description. The coastline area around Pensarn is vegetated, forming a relatively rare habitat, and thus meriting priority status as an Annex 1 habitat (Conservation of Habitats and Species Regulations 2017). The ES refers to a vegetation study of the site in July 2021 which provides a species list, including important vegetation species typifying that of a 'vegetated shingle ridge'. The species include yellow horned-poppy (*Glaucium flavum*), curled dock (*Rumex crispus*), the locally rare sea kale (*Crambe maritima*). Unfortunately, the report does not appear to map the distribution of these species but does provide a measure of abundance as 'occasional'. We recommend that the ES investigates the distribution of these key species, maps them, and then assesses the relative importance of the site in terms of an Annex 1 Habitat. It will then be possible to identify measures of how the proposed operation could avoid or mitigate for their presence. At present based on the evidence provided, we cannot agree with the assessment that the vegetation or habitat will not be adversely affected. The ES has highlighted the occurrence of rough clover and slender thistle and provided mitigation measures for these species. We advise that this level of concern	Comments noted. A botanical survey was undertaken at this location and reported in the Colwyn Bay Waterfront Project Phase 2b, Botanical Survey Report. The survey recorded limited evidence of key species associated with the SSSI assemblage of plants and the potential Annex 1 habitat, yellow horned-poppy (*Glaucium flavum*), curled dock (*Rumex crispus*) and sea kale (*Crambe maritima*). Due to the relative absence of these species in the working area, the report instead focussed on two red-listed plant species found in the working area, and as a result lacks clarity regarding the presence, distribution and abundance of key species and status of habitats in this area. Therefore Chapter 9 Biodiversity and Chapter 19 Summary have been updated, informed by a separate report produced from survey records and geo-referenced photographic records obtained in July 2021.Report reference is Colwyn Bay Waterfront Project Phase 2b Pensarn Beach SSSI Works Impact Assessment and

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	is better directed towards the key species typical of a vegetated shingle ridge, rather than to these particular species.	Mitigation Plan (100374-MMD-00-XX-RP-N-0044) located in ES Volume 2: Technical Appendix 9.11. In addition the Pensarn Beach Plant Species Distribution Map has been produced to visually represent the distribution of notable species (Drawing 100374-MMD-00-XX-DR-N-0033-36), in Section 9.12.
Coastal and Physical Processes	To confirm, having reviewed Chapter 11 of the ES we have no further issues or comments to raise in relation to the proposed coastal defence works and beach recharge from a coastal processes perspective.	Noted.
Marine Water Quality – Environmental Statement and Habitats Regulations Assessment	We agree that any effects on marine water quality are likely to be temporary and of low magnitude if best practice methodology is followed during construction and beach recharge works. The Construction Environmental Management Plan (CEMP) is referenced in the ES (ES Volume 2 Technical Appendix 17.3) but will need to be agreed with the determining authority.	Noted.
WFD Assessment (ES Technical Appendix 11.4)	With best practice measures put in place we agree that construction impacts on marine water quality are likely to be temporary and of low magnitude. We agree in principle that the following WFD elements taken forward to stage 3 WFD compliance assessment will not cause deterioration of the WFD waterbody status for North Wales Coastal Water Body: • Hydromorphology: Development for Coastal Protection; • Water Quality: Phytoplankton status of Moderate and Water clarity; • Protected Areas: Liverpool Bay SPA, Rhos-on-Sea Shellfish Waters, Colwyn Bay Bathing Waters, Abergele (Pensarn) Bathing Waters, and Traeth Pensarn SSSI; • INNS (use of marine vessels and imported materials). The WFD assessment does however reference the CEMP which we have not yet been provided with. We would ask the applicant to reference GPP5 Works and	"GPP5 Works and maintenance in or near water" has been included in the REAC table within the EMP, please see ES Volume 2: Technical Appendix 17.3. As mentioned above, the reference provided refers to a photograph of the Sabellaria alveolata located at Old Colwyn, located outside of the Scheme RLB, please see Figure 3.24 of the Intertidal Biotope Survey Report (ES Volume 2: Technical Appendix 9.4) for the patchy degraded *Sabellaria alveolata* located within the Scheme area.

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	maintenance in or near water in the CEMP. We refer you to condition 1 in the main letter above. We do not at this time agree that the small area of patchy, degraded Sabellaria Alveolata formation which has been identified in the Phase 2b area is scoped out of the WFD assessment process (see section 4.3.1 Sensitive Habitats Table 4.4). Until the issues raised under the marine benthic ecology section above are resolved we cannot confirm that any damage/loss of the Sabellaria alveolata caused by the beach recharge works will not cause deterioration of the WFD water body status for North Wales Coastal Water Body.	