NatureScot
Scotland's Nature Agency
Buidheann Nàdair na h-Alba

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{Via email only: Emily.foster@rhdhv.com}

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Our ref: CPA177088

Dear Emily,

Pre-application Comments: Proposed Development in Port of Dundee, Firth of Tay

Thank you for consulting NatureScot on the above proposal.

1. Summary of proposal

There is a suit of works proposed in the Port of Dundee and the Lady Shoal approach channel in the Firth of Tay. These works include deepening of the approaches to DunEco Quay and Prince Charles Wharf (PCW), Western extension of the lay-down area, placement of a rock mattress to limit leg penetration of jack-up vessels, PCW improvement works and deepening of a section of the Lady Shoal approach channel. These elements are independent of each other and can be undertaken in isolation, all together or in a variety of combinations. The works are planned to start in spring or summer 2025.

2. Summary of advice

We have provided comments on the potential impacts the proposed works could have on designated sites and their qualifying interests that are connected to the development site, based on the information provided. We have also provided advice on the survey requirements for marine mammals, benthic habitats and ornithology. Existing bird survey data is insufficient for assessment and additional bird surveys are required for areas involved in the marine elements of the proposal at the port development site (and Lady shoal?). We also advise an increase the benthic ecology survey coverage, sediment dispersion modelling output request, and for further information on Aspect multibeam bathymetric survey with regards to blue mussel. In addition, we require further clarity as to the certainty that future dredging at Lady Shoal approach would not be required. We advise that a full review of existing data on marine mammal presence in this area is undertaken. As the proposal currently stands, it may merit a NatureScot objection due to lack of data, impacts to Priority Marine Features (PMF's) and impacts to designated sites.

3. Appraisal

There are a number of designated sites within and connected to the area where the works are proposed. The site's status means that the requirements of the Conservation (Natural Habitats, &c.) Regulations 1994 as amended (the "Habitats Regulations") apply. Consequently, Dundee Port authority is required to consider the effect of the proposal on the designated sites before it can be consented (commonly known as Habitats Regulations Appraisal). The NatureScot website has a summary of the legislative guidance here.

Our advice is that this proposal is likely to have a significant effect on the designated sites outlined below. With the limited information available at this stage, NatureScot cannot undertake an appropriate assessment against the conservation objectives of the proposed development on these designated sites. We have the following comments to make in relation to the designated sites that have connectivity to the works at Dundee Port.

4. Designated Sites

4.1 Firth of Tay and Eden Estuary Special Area of Conservation (SAC)

The Firth of Tay and Eden Estuary SAC is designated for its estuaries, subtidal sandbanks, intertidal mudflats and sandflats and its population of Harbour seal. Seagrass beds and blue mussel beds form part of the intertidal mudflats and sandflats feature and are both Priority Marine Features (PMF's). The proposed works are within the boundary of The Firth of Tay and Eden Estuary SAC.

Harbour Seal

This feature is in Unfavourable Declining condition, with numbers of harbour seals within the site having declined since designation (a 94% decline since the period 1990 – 2002). The SAC population is therefore highly vulnerable and a thorough assessment of impacts will be needed, along with a need for appropriate mitigation measures.

From the information provided at this stage, we advise that there is a potential risk of injury and/or disturbance from a number of the proposed activities to harbour seal in the Firth of Tay and Eden Estuary SAC. All activities which have the potential to produce underwater noise need to be considered in the Habitat Regulations Appraisal (HRA). Dredging, disposal and vessel movement can all cause disturbance. If geophysical surveys are required, there is a risk of injury and disturbance due to the underwater noise produced by the acoustic survey devices.

The activity with the greatest potential for impacts is pile driving. This activity can create noise levels which can cause auditory injury to marine mammals and can cause disturbance over a large area. The risks from this activity will need to be fully and quantitatively assessed, and it is likely that mitigation will need to be applied.

A Marine Mammal Mitigation Plan should be produced. Depending on the outcome of the assessment, it is possible that monitoring of marine mammals will be required, at pre-, during and post-construction stages.

Estuaries, subtidal sandbanks and intertidal mudflats and sandflats

The Firth of Tay and Eden Estuary SAC protects ~46% of blue mussel bed records within the Firth of Forth Marine Region and includes the largest known subtidal blue mussel beds, >400ha in the Firth of Tay. Therefore, impacts on Blue Mussel beds within this Marine Region may affect the national status of the blue mussel bed feature and may merit a NatureScot objection if the proposed development at the Lady Shoal approach channel is progressed as it stands.

Blue Mussel Beds are sensitive to physical loss of habitat and habitat extraction, physical disturbance (i.e. surface abrasion and penetration of sediment), changes in water flow and smothering (siltation). The proposed dredging could remove an estimated 4.72ha of the subtidal blue mussel bed based on the proposed dredge area and the predictive extent of the mussel bed. This does not include the indirect impacts of siltation and changes in water flow to surrounding beds. Blue mussel are also an important prey species for a variety of SPA designated species including common eider, common scoter, long-tailed duck and velvet scoter and there are possible impacts on prey availability of SPA features. An assessment of impacts to blue mussel beds using appropriate modelling and consideration of alternative sites such be included in an EIA.

Both intertidal and subtidal seagrass beds are a protected feature within Firth of Tay and Eden Estuary SAC (Sandbanks which are slightly covered by sea water all the time feature and Mudflats and sandflats not covered by seawater at low tide feature for the species *Z. noltei*). Records indicate only intertidal seagrass beds have been recorded here.

Seagrass beds are sensitive habitats. Coastal engineering and dredging activities can result in increased siltation and turbidity. FeAST (website) sets a high sensitivity of seagrass to siltation (light) and changes in water clarity. Sediment dispersion modelling should provide further information of the potential impacts to seagrass beds as well as further information on the frequency and duration of dredging activities.

We advise that the sediment dispersion modelling includes the outputs of deposition in “cm” to permit assessment against the FeAST benchmark. This will allow us to comment on whether these works will have an adverse affect on site integrity and if mitigating measures can be put in place to avoid impacts. Deepening of the Lady Shoal approach may remove areas of blue mussel beds.

4.2 Firth of Tay and Eden Estuary Special Protection Area (SPA)

The Firth of Tay and Eden Estuary SPA is designated for a number of seabirds (21 in total). The Firth of Tay and Eden Estuary SPA is located approximately 4.5km from the proposed western extension of the laydown area and approximately 1km from the Lady Shoal approach channel.

There are impact pathways with potential to undermine the conservation objectives of this SPA’s qualifying bird qualifying features. Further information will be required to assess impact of these pathways. Airborne and underwater noise from the proposed dredging, construction works, vibro-core sampling, piling works, and potential geophysical surveying could cause significant disturbance/displacement depending on the timing, duration and sound level/intensity. Depending on the activity, there is also a risk of injury to diving birds through underwater noise. Further assessment of these aspects will be required to determine potential impacts on marine and wading birds from this SPA.

There will be visual disturbance from the construction activity and vessels, including the dredger. The pre-app document states there would be no change to the operation of the Port of Dundee, as a result of the proposed development, with a minor change to maintenance dredging, although this is not quantified. Details should be given in future consultations on the current level of dredging and associated vessel movements and the proposed increase for future maintenance dredging. Limited information has been given on the increase in vessel movements during construction/dredging. Further details required to assess the impact on SPA features will include the vessel routes, timings and number of trips, including to the disposal site. Timing and duration of all works in each element will be required.

The proposed dredging in the Lady Shoal approach channel will be undertaken by a single back hoe dredger, over c.30 day period. Although it has been stated that this will not be a significant increase in vessel numbers, there will be disturbance to the SPA qualifying species caused by the dredging of

approximately 160,000m³, through underwater noise, sediment disturbance, and continuous presence of a boat for a 30 day period (duration and time of year has not been provided so we are unable to provide detailed comments on this at this stage). Seasonal and spatial restrictions may be required to avoid disturbing and displacing marine birds, mitigation for this should be considered.

Deepening of the Lady Shoal approach may remove areas of blue mussel beds. Blue mussel are an important prey item for a variety of Firth of Tay and Eden Estuary SPA designated species including common eider, common scoter, long-tailed duck and velvet scoter. Deposition of suspended sediment has the potential to cause loss or habitat degradation to the benthic habitat around dredged areas and the disposal site, such as seagrass beds. Seagrass provides a nursery habitat for prey species that seabirds and diving birds depend on.

The disposal site is located within the Firth of Tay and Eden Estuary SAC, 3km from the Firth of Tay and Eden Estuary SPA and partially within the OFFSAB SPA. The site is located within 3km of known seagrass and blue mussel beds. The proposal would result in a potential total disposal of 307,500 m^3 of material at the site. Sediment plume may impact important supporting habitat for the marine birds and could displace birds from important foraging areas.

4.3 Moray Firth SAC

The Moray Firth SAC is designated for its subtidal sandbanks and population of bottlenose dolphin. Due to the distance between the site and Dundee port, there is no likely significant effect to the subtidal sandbanks feature of the SAC.

Although this site is distance from Dundee Port, it is known from photo-ID that individuals from the Moray Firth population frequently use the Firth of Tay region for foraging and other activities. There is therefore clear connectivity, and this site should be included in the HRA. From the information provided at this stage, we advise that there is a potential risk of injury and/or disturbance from a number of the proposed activities to bottlenose dolphin in the Moray Firth SAC. All activities which have the potential to produce underwater noise need to be considered in the HRA. Dredging, disposal and vessel movement can all cause disturbance. If geophysical surveys are required, there is a risk of injury and disturbance due to the underwater noise produced by the acoustic survey devices.

The activity with the greatest potential for impacts is pile driving. This activity can create noise levels which can cause auditory injury to marine mammals and can cause disturbance over a large area. The risks from this activity will need to be fully and quantitatively assessed, and it is likely that mitigation will need to be applied. A Marine Mammal Mitigation Plan should be produced. Depending on the outcome of the assessment, it is possible that monitoring of marine mammals will be required, at pre-, during and post-construction stages.

4.4 Outer Firth of Forth and St Andrews Bay Complex SPA

The Firth of Tay and Eden Estuary SPA is designated for several seabirds (28 in total). There are five SPA features that are also features of the Firth of Tay and Eden Estuary SPA: common scoter, goldeneye, long-tailed duck, red-breasted merganser and velvet scoter. The Outer Firth of Forth and St Andrews Bay Complex SPA is located next to the proposed western extension of the laydown area and the Lady Shoal approach channel is within the SPA.

There are impact pathways with potential to undermine the conservation objectives of this SPA's qualifying bird qualifying features. Further information will be required to assess impact of these pathways. The impact pathways described above for the Firth of Tay and Eden estuary SPA also apply to the Outer Firth of

Forth and St Andrews Bay Complex SPA. The disposal site is located partly within the Outer Firth of Forth and St Andrews Bay Complex SPA. The sediment plume may impact important supporting habitat for the marine birds and could displace birds from important foraging areas, particularly for marine bird associated with this site.

4.5 River Tay SAC

The River Tay SAC is designated for its populations of Atlantic salmon, brook lamprey, river lamprey, sea lamprey and otter. The works are unlikely to impact sea lamprey**,** river lamprey, brook lamprey or otter due to where the works are taking place in relation to the River Tay SAC. None of the works are taking place within the River Tay SAC, they the works are ~27km from the boundary of the site.

However, once Atlantic salmon have undergone smolt, they migrate from the River Tay to sea, passing through Firth of Tay. Downstream migration occurs in March, April and May and upstream migration occurs all year round. The months of greatest sensitivity for Atlantic Salmon are November-May. If the works are taking place during the downstream migration or during sensitive months, they could disrupt Atlantic salmon movements to and from the River Tay SAC. The works could also impact Atlantic salmon that are present in the area where works are taking place, especially areas where dredging and underwater construction are taking place. To avoid an adverse affect to Atlantic Salmon associated with the River Tay SAC, we advise that the works do not take place during the months of downstream migration or during the most sensitive months for Atlantic Salmon.

4.6 Isle of May SAC and Berwickshire & North Northumberland Coast SAC

The Isle of May SAC is designated for its populations of grey seal and reef habitats. The Berwickshire & North Northumberland Coast SAC is designated for its populations of grey seal and its marine and coastal habitats.

Although grey seals can and do forage considerable distances, the Conservation Objectives for grey seal SACs are related to the protection of the breeding colony. During this sensitive time, grey seals (especially females) do not travel further than approximately 20 km. Therefore, while there may be some connectivity to the works at Dundee Port, it is unlikely that there will be significant effects to these sites due to the distance they are from Dundee Port, roughly 40 km for the Isle of May SAC and 70 km for Berwickshire & North Northumberland Coast SAC.

5. Surveys

5.1 Marine Mammal Surveys

NatureScot advises that a full review of existing data on marine mammal presence in this area is undertaken. There is a lot of data available, mainly from the Sea Mammal Research Unit (SMRU) at St Andrews University. SMRU carries out monthly boat-based surveys for cetaceans within the St Andrews Bay and Firth of Tay region. They also carry out aerial surveys for harbour and grey seals. The data can be made available by SMRU but can also be accessed through NMPi.

Data from citizen science land-based surveys are also available. Citizen Fins data is collected by SMRU. Whale and Dolphin Conservation (WDC) collect data through the Shorewatch project and SeaWatch Foundation record data through their National Whale and Dolphin Week at Broughty Ferry. There may also be data available from previous developments in and around Dundee and the Firth of Tay, some of which may be available through Marine Scotland's licensing portal or directly from the developers.

All of this information will allow you to build a picture of marine mammal usage of the area, in terms of abundance, density, and seasonality. It is therefore unlikely that you will need to carry out your own marine mammal surveys. However, any additional data you can provide with the application will be useful in determining the likelihood of impacts to marine mammals. When carrying out any surveys for birds, any marine mammals observed during the surveys should also be recorded. As highlighted above, a Marine Mammal Mitigation Plan should be produced. Depending on the outcome of the assessment, it is possible that monitoring of marine mammals will be required, at pre-, during and post-construction stages.

5.2 Benthic Surveys

We advise that the sediment dispersion modelling that is going to be undertaken should include the outputs of deposition in "cm" to allow assessment against the FeAST (website) benchmarks. This should provide further information of the potential impacts to seagrass beds as well as further information on the frequency and duration of dredging activities.

The benthic ecology survey of the proposed Lady Shoal approach channel dredge area currently avoids modelled blue mussel beds. NatureScot requests additional sites be selected to the east of the site to include predicted beds. Suggested sites are: a) 56.45321 N, -2.82036 W and b) 56.45167 N, -2.82036 W. If Priority Marine Features (PMF) are detected within the proposed ROV surveys, the survey should be extended to assess the extent, quantity and quality of any potential PMF's. This will aid in setting an accurate baseline and the assessment of any potential impacts from the proposal. We also require further clarity on the certainty that dredging would not be required in the future for the proposed Lady Shoal area to allow us to assess the impacts to the Firth of Tay and Eden Estuary SAC and inform the appropriate assessment.

The 'Aspect multibeam bathymetric survey - Lady Shoal Geophysical Data - August 2017' is referred to in the consultation document. The extent that the survey covers or if the data can be used (potentially with ground truthing from proposed and/or additional benthic ecology surveys) to identify PMFs is not clear, particularly for mussel beds within the survey area. We require further clarity to these points and if required, the provision of updated bathymetry data and/or survey which can be used to identify, quantify direct (dredging) and indirect (siltation) to mussel beds.

The proposed Middle Deep disposal site is within the Firth of Tay and Eden Estuary Special Area of Conservation (SAC) and could impact this site with increased siltation, water clarity/quality changes on sensitive protected features such as blue mussel beds and seagrass beds. An assessment using appropriate modelling and consideration of alternative sites such be included in an EIA.

The proposed development, in particular the proposed deposition within the Firth of Tay and Eden Estuary SAC and the proposed dredge of Lady Shoal could result in a significant impact on the protected features of the SAC and have a deleterious impact on the conservation objectives of the SAC. With the limited information available at this stage, NatureScot cannot undertake a Habitats Regulations Appraisal (HRA) against the conservation objectives of the proposed development on the SAC. The proposed surveys will aid in our assessment.

5.3 Ornithology Surveys

The pre-application document includes a report on existing data – "BSG survey for Proposed Development at Dundee Dock: West Extension, Vantage Point Results Report, April 2024". The survey was undertaken to solely inform the 'Western extension of the laydown area' element of this proposal, which involves only land based works, from VP position NO4282930766. The survey area consisted of a 180 degree viewshed facing south over the Tay Estuary, out to 500m. Monthly low tide surveys (four hour watches) were

conducted between Apr 23 – Mar 24, with additional monthly high tide surveys between May and Aug 23. No further bird surveys have been proposed.

NatureScot advises further bird surveys of the areas involved with the marine aspects of this proposal will need to be carried out. Full coverage of the DunEco Quay/PCW dredge area needs to take place, which should include the area overlapping with the SPA. This is consistent with what we request for all Port expansion works. Given that the existing survey data has already determined that the three tern species are not using the Port area, we are content with the summer survey information presented to help us to make an assessment for these feature of the SPA's. However, for the non-breeding qualifying species we do not consider the current survey data sufficient. Surveys should take place at least monthly over the winter period (Oct-March ideally), and these should cover different times of day and different tidal states. Survey coverage should include the development footprint plus a buffer of at least 1km (preferably 2+km for divers). This survey effort will also be sufficient to cover the wading bird species associated with the Firth of Tay and Eden Estuary SPA.

Greylag goose and pink-footed goose are also qualifying interests of the Firth of Tay and Eden Estuary SPA. Geese fly over the site, can be present on the mudflat areas for feeding and roost close to the site. A survey for goose should also be undertaken, from more that one vantage point, to assess the usage of the site by these species. Local goose information from the GSMP (here) should also be used to complement the survey findings.

For capital dredge proposals in addition to the benthic survey required, as detailed above, bird surveys are also normally advised for the area. For the Lady Shoal approach channel it is acknowledged that this is already a busy channel for vessel traffic (1928 vessel movements in 2023), and the additional boat presence will be temporary. Within the application we recommend the applicant try to provide contextual information about what birds may be using this area. Local bird information from WeBS (here) may be one source to consider. Our main assessment on the Lady Shoal channel works will be based on the damage to prey supporting habitat for the qualifying features.

As the proposal progresses the applicant should think about potential mitigation that might be required to minimise the impacts to the bird qualifying features. Bird survey methodology including data presentation should be verified with NatureScot prior to the survey commencing to ensure data is suitable for further assessment.

If you require any further advise, please contact us.

Yours sincerely,

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