Port of Brisbane Channel Development Program

Application Number: **01903** Commencement Date: **27/06/2023** Status: **Locked**

1. About the project

1.1 Project details

1.1.1 Project title *

Port of Brisbane Channel Development Program

1.1.2 Project industry type *

Transport - Water

1.1.3 Project industry sub-type

Port

1.1.4 Estimated start date *

01/01/2027

1.1.4 Estimated end date *

12/12/2057

1.2 Proposed Action details

1.2.1 Provide an overview of the proposed action, including all proposed activities. *

The Port of Brisbane (the 'Port) is a cornerstone of the Queensland economy being Australia's third largest container port and the state's largest multi-cargo port catering for approximately 5,300 vessel movements annually. The Port of Brisbane provides critical export and import links to world markets. On average,

approximately $55 billion in international trade is handled annually through the Port, which includes around 50% of Queensland's agricultural exports and 95% of its motor vehicles and containers.

The Port is located at the mouth of the Brisbane River and is managed and developed by Port of Brisbane Pty Ltd (PBPL) under a 99-year lease from the Queensland Government. The 96km shipping channel network starts near the intersection of Caloundra and Bribie Island, heads south to the southern tip of Moreton Island and then traverses 16 km up the Brisbane River to Breakfast Creek.

Currently, the Port of Brisbane can safely accommodate vessels that transit through the region. However, as one of Australia's three major east coast container ports, PBPL is obligated to plan for future growth and for changing global supply chain trends, most notably in this case is the increasing size of vessels that make up the global shipping fleet. This trend over time towards larger vessels, underpinned by strong population growth leading to increasing trade and shipping movements has led PBPL to propose a long-term program of works that will deepen, widen and partially realign the existing shipping channel network that services the Port of Brisbane. The Port of Brisbane Channel Development Program (hereby known as 'the Project') will involve capital dredging works to enable increasingly larger and deeper draught container vessels and bulk cargo ships to safely and efficiently transit through Moreton Bay under a wide range of conditions. In addition to the deepening and widening of existing navigational channels, a number of minor re-alignments and bend radius increases are also proposed to reduce risk whilst entering and leaving the Port.

It is estimated that a volume of approximately 96,500,000 m3 of material would be required to be dredge dover a 20 - 25 year period to support the project. A map of the indicative dredge footprint is provided in **Figure 4.1 within Attachment 'R.03.00.MNES_01082024', Section 4, p. 24,** however exact channel dimensions will be determined as the project progresses. No dredging will occur within the Moreton Bay Ramsar Wetland or Commonwealth waters.

The PoB is currently investigating several options for placement of dredged material. The potential placement locations are mapped in **Figure 4.1 within Attachment 'R.03.00.MNES_01082024'**, **Section 4, p. 24** and are named Juno Point Reclamation Dredge Material Placement Area (DMPA), Fisherman Island Expansion DMPA, Central Moreton Bay DMPA, and Northern Deepwater DMPA. No material will be placed within the Ramsar wetland or Commonwealth waters. A comprehensive site options analysis will be undertaken as part of further environmental studies to determine the most appropriate location.

In summary, the activities proposed as part of this referral are:

- capital and ongoing maintenance dredging
- placement of dredge material (which may include at sea placement or construction of a reclamation area)
- temporary storage of sand material within the Port of Brisbane

Further information on the potential placement options is provided in **Attachment 'R.03.00.MNES_01082024'**, **Section 3.1.2, pp. 14 to 17**. Refer to **Attachment 'R.03.00.MNES_01082024'**, **Section 3, pp. 11 to 22** for further detail on project design and activities.

1.2.2 Is the project action part of a staged development or related to other actions or proposals in the region?

No

1.2.6 What Commonwealth or state legislation, planning frameworks or policy documents are relevant to the proposed action, and how are they relevant? *

The proponent has applied to the Queensland Coordinator-General to declare the proposed development as a Coordinated Project under Part 4, Division 2 of the *State Development and Public Works Organisation Act 1971* (SDPWO Act). It is intended assessment of the project be assessed conjointly by the state and Commonwealth under the EPBC Act bilateral agreement.

Other downstream approval and permit requirements may vary depending on the final design and construction methodology. At this stage of the development, the proposed channel development works will be undertaken in accordance with the following Commonwealth legislative requirements:

- *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) - for actions that are likely to have a significant impact on Matters of National Environmental Significance (MNES) an assessment against these matters will be required.
- *Environmental Protection (Sea Dumping) Act 1981* - for the placement of material at sea within Australian Waters. An assessment of dredge material against the National Assessment Guidelines for Dredging (NAGD) (2009) may be required. The need for this approval will be determined pending further discussions with DCCEEW.
- *Native Title Act 1993* - to ensure relevant native title bodies are notified for works

A suite of State approvals will also be required for the dredging works, which will be applied for/obtained as per the following legislation:

- *Planning Act 2016*
- *Coastal Protection and Management Act 1995*
- *Fisheries Act 1994*
- *Environmental Protection Act 1994*
- *Marine Parks Act 2004* and Regulations
- *Forestry Act 1959*

1.2.7 Describe any public consultation that has been, is being or will be undertaken regarding the project area, including with Indigenous stakeholders. Attach any completed consultation documentations, if relevant. *

Community and stakeholder consultation regarding the Project will be undertaken by PBPL with objectives including informing interested parties about the project, identifying relevant stakeholders with an interest, understand community viewpoints and feelings about the project, and providing an opportunity for stakeholders to be engaged and give feedback about the project. PBPL has already undertaken significant stakeholder consultation on this Project ahead of lodgment of this referral, including with relevant indigenous stakeholders and government departments. It is their intention that engagement will be undertaken regularly with interested parties as the Project progresses.

Feedback from this initial engagement has provided overall broad recognition and acceptance of the project rationale and assessment processes to be undertaken.

The feedback from the consultation also encouraged thorough stakeholder engagement during an EIS process and to:

- Regularly engage with key stakeholders on the outcomes of studies as they progress and gain input into appropriate mitigation measures;
- Specifically seek feedback/interaction with environment, fisheries, marine and coastal communities of interest;
- Keep local representatives and government departments and agencies updated on progress;
- Provide regular communication on progress for the general public.

Port of Brisbane is committed to transparency and sharing of information and will continue to capture diverse stakeholder views that will inform the planning and design of the project environmental assessments and statutory approval processes.

Further information on community and stakeholder consultation processes and identification of stakeholders is provided in **Attachment 'R.03.00.MNES_01082024', Section 7, pp. 72 to 74.**

1.3.1 Identity: Referring party

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1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details

ABN/ACN	54010830421

Organisation name	BMT COMMERCIAL AUSTRALIA PTY LTD
Organisation address	4000 QLD

Referring party details

Name	Lisa McKinnon
Job title	Senior Principal
Phone	(07) 3831 6744
Email	lisa.mckinnon@apac.bmt.org
Address	PO Box 203 Spring Hill Queensland 4004

1.3.2 Identity: Person proposing to take the action

1.3.2.1 Are the Person proposing to take the action details the same as the Referring party details? *

No

1.3.2.2 Is Person proposing to take the action an organisation or business? *

Yes

Person proposing to take the action organisation details

ABN/ACN	78143384749
Organisation name	PORT OF BRISBANE PTY LTD
Organisation address	3 Port Central Avenue, Port Brisbane QLD 4178

Person proposing to take the action details

Name	Tim Cope

Job title	Senior Manager Business Development, Port of Brisbane
Phone	+61732584888
Email	channeldevelopment@portbris.com.au
Address	3 Port Central Avenue, Port Brisbane QLD 4178

1.3.2.14 Are you proposing the action as part of a Joint Venture? *

No

1.3.2.15 Are you proposing the action as part of a Trust? *

No

1.3.2.17 Describe the Person proposing the action's history of responsible environmental management including details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against the Person proposing to take the action. *

The person responsible for referring the proposed action has a satisfactory record of responsible environmental management and has no proceedings against them, past or present. In accordance with their Sustainability Plan, PBPL are seeking to achieve positive net environmental benefit. This includes ensuring no exceedances of NEPM air quality objectives, net zero emissions, zero waste to landfill, net positive water use and improving the quality of designated environmental areas across Port land.

According to their website, PBPL has implemented a number of monitoring programs, some of which have been in place for over 10 years. These include:

- Air quality monitoring programs for dust deposition including long-term monitoring over 2003 to 2011, roadside monitoring in 2006 to 2008, and continuous real-time dust monitoring commenced in 2013 (results of which are updated daily on their website)
- Installation of 52 nest boxes across three buffer areas to provide habitat for native birds and animals
- Random inspection procedures to monitor invasive species
- Annual weed surveys on Port land to identify introduction and spread of weed species (in place since 2001)
- Mangrove, seagrass and future port expansion seawall health monitoring programs
- Water quality monitoring of groundwater and ambient water quality in the bay adjacent to PBPL operations

In terms of projects, PBPL has constructed and actively manage an artificial shorebird roosting site on the east side of Fishermans Island. PBPL are also leading a voluntary multi-award winning offsite stormwater treatment project in the Lockyer Valley to achieve multiple outcomes including downstream water quality improvements to Brisbane River and Moreton Bay.

Based on these initiatives undertaken/currently in place, PBPL are demonstrated to have good environmental corporate governance and a history of responsible environmental management.

PBPL has previously submitted and gained approval for 8 projects under the EPBC Act. These have all been delivered with a successful compliance track record, including the Future Port Expansion Project, which has involved the construction of a significant reclaimed area to expand the Port of Brisbane which has occurred over the last 20 years.

1.3.2.18 If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

PBPL is an industry leader when it comes to sustainability more broadly and has a long history of excellence in environmental management. This includes an ISO14001 Environmental Management System (EMS) which was initially certified in 2000 and is regularly and independently audited against the Environmental Management System ISO14001:2015 international standard.

The organisation has a strong history of environmental compliance; it has not received any fines or licence breaches for environmental incidents in the last five years. Its primary purpose is to support and facilitate trade that underpins the Queensland economy, maintaining high quality facilities to do so. PBPL is highly conscious of its position and endeavours to act at all times to support this purpose.

PBPL's environment policy is attached in **Attachment 'Environment Policy' (see whole document).**

1.3.3 Identity: Proposed designated proponent

1.3.3.1 Are the Proposed designated proponent details the same as the Person proposing to take the action? *

Yes

Proposed designated proponent organisation details

ABN/ACN	78143384749
Organisation name	PORT OF BRISBANE PTY LTD
Organisation address	3 Port Central Avenue, Port Brisbane QLD 4178

Proposed designated proponent details

Name	Tim Cope

Job title	Senior Manager Business Development, Port of Brisbane
Phone	+61732584888
Email	channeldevelopment@portbris.com.au
Address	3 Port Central Avenue, Port Brisbane QLD 4178

1.3.4 Identity: Summary of allocation

Confirmed Referring party's identity

The Referring party is the person preparing the information in this referral.

ABN/ACN	54010830421
Organisation name	BMT COMMERCIAL AUSTRALIA PTY LTD
Organisation address	4000 QLD
Representative's name	Lisa McKinnon
Representative's job title	Senior Principal
Phone	(07) 3831 6744
Email	lisa.mckinnon@apac.bmt.org
Address	PO Box 203 Spring Hill Queensland 4004

Confirmed Person proposing to take the action's identity

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	78143384749
Organisation name	PORT OF BRISBANE PTY LTD
Organisation address	3 Port Central Avenue, Port Brisbane QLD 4178
Representative's name	Tim Cope
Representative's job title	Senior Manager Business Development, Port of Brisbane

Phone	+61732584888
Email	channeldevelopment@portbris.com.au
Address	3 Port Central Avenue, Port Brisbane QLD 4178

Confirmed Proposed designated proponent's identity

The Person proposing to take the action is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

1.4 Payment details: Payment exemption and fee waiver

1.4.1 Do you qualify for an exemption from fees under EPBC Regulation 5.23 (1) (a)? *

No

1.4.3 Have you applied for or been granted a waiver for full or partial fees under Regulation 5.21A? *

No

1.4.5 Are you going to apply for a waiver of full or partial fees under EPBC Regulation 5.21A?

No

1.4.7 Has the department issued you with a credit note? *

No

1.4.9 Would you like to add a purchase order number to your invoice? *

No

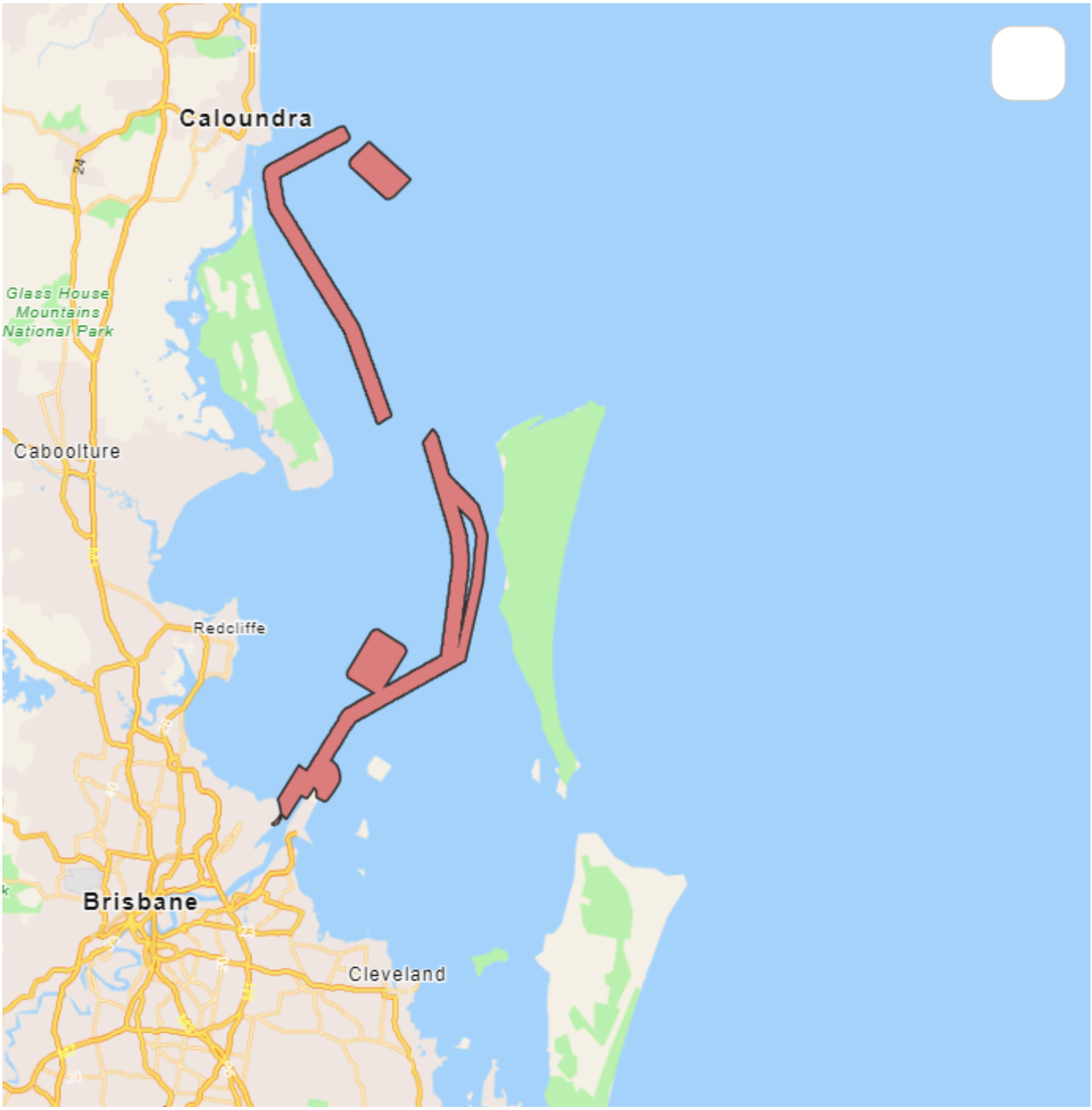
1.4 Payment details: Payment allocation

1.4.11 Who would you like to allocate as the entity responsible for payment? *

Person proposing to take the action

2. Location

2.1 Project footprint



Project Area: 15829.94 Ha
Disturbance Footprint: 15829.94 Ha

Maptaskr © 2024 -26.796603, 154.195065

Powered By Esri - Sources: Esri, TomTom, Garmin, F…

2.2 Footprint details

2.2.1 What is the address of the proposed action? *

Moreton Bay, in and adjacent to the existing Port of Brisbane navigational channels

2.2.2 Where is the primary jurisdiction of the proposed action? *

Queensland

2.2.3 Is there a secondary jurisdiction for this proposed action? *

No

2.2.5 What is the tenure of the action area relevant to the project area? *

Dredging will occur on land that is designated as ‘Unallocated State Land’, meaning that it is owned by the State of Queensland. PBPL is required to maintain the depths and extent of the navigational channels in accordance with the terms of the Port lease, and various planning approvals from the State and does not ‘own’ the land within which the navigational channel sits.

PBPL is currently investigating several options for disposal of dredged material within the study area. Material placed at sea would occur on State Land. If land placement occurs, it would most likely occur at Juno Point west of the Port or to expand Fisherman Island seaward, however the final site (and tenure) will be determined as this study progresses. See **Figure 4.1** within **Attachment ‘R.03.00.MNES_01082024’**, **Section 4, p. 24** for locations of potential placement locations, and **Attachment ‘R.03.00.MNES_01082024’, Section 3.1.2, pp. 14 to 17** for further details of the potential placement options.

3. Existing environment

3.1 Physical description

3.1.1 Describe the current condition of the project area's environment.

The project will involve dredging of the seabed both in the nearshore and offshore areas of Moreton Bay. For the purposes of this project, the nearshore component is characterised by the Port area and surrounds (including the Outer Bar channel at the mouth of the Brisbane River and the Mud Island Dredge Material Placement Area [DMPA]). The offshore component refers to the shipping channels in the Central, Eastern and Northern part of Moreton Bay (encompassing the East Channel, East Knoll, Spitfire Channel Area and the North West Channel and includes prospective effects from the project on Moreton Island and Bribie Island).

Infrastructure

Transportation during dredging and placement activity will be via a dredge vessel. A temporary construction access road will be required for construction of the Juno Point DMPA from the existing International Cruise Ship Terminal, should this placement option be used.

Once operational, a maintenance dredge will regularly remove excess material within the completed channel. The Fisherman Island reclamation area would be accessed via an extension of the existing port road network. Any future use of the Juno Point reclamation area would likely be accessed via a permanent road along the same alignment as the temporary construction road.

Sediments

Sediments in the nearshore environment are characterised by silts and clays from the bed surface to depths between -8.5m to -11.5m LAT, intermediate thin layers of muddy sand and sand from -11.5 to -16.5m LAT, and sand and gravels between depths of -16.5m and -21.5m LAT.

Sediments in the offshore environment are predominately clean fine to medium grained sand and well sorted, slightly shelly sand. The basal unit consists of clay to sandy clay fractions. Geotechnical and geophysical investigations were undertaken between May 2022 and January 2023 to characterise sediment types and expected volumes, the findings of which are presented in **Attachment 'R.03.00.MNES_01082024', Section 4.1, pp. 25 to 26**. The material expected to be encountered during dredging is likely to be mud/clay in the nearshore channels (Outer Bar and Bay Crossing) and mostly sand in the offshore areas (East Knoll, East/Main and North West).

Water

The Brisbane River Estuary Water Quality Guidelines provide relevant environmental values and water quality objectives for the river and nearshore coastal area and is subordinate to the Queensland *Environmental Protection (Water and Wetland Biodiversity) Policy 2019*. The lower Brisbane River and Outer Bar area are mapped as an 'enclosed coastal/lower estuary' and support a number of environmental values (EVs). These are moderately disturbed aquatic ecosystems, human consumption (except oysters), primary, secondary and visual recreation, industrial uses, and cultural and spiritual values.

Monitoring of water quality in the estuary has been undertaken since 2000 under the Ecosystem Health Monitoring Program (EHMP). Monitoring results from nearshore sites have consistently shown elevated nutrient concentrations (e.g. nitrogen, phosphorus). This is as a result of broader catchment inputs as well

as from the Luggage Point WWTP discharge point located on the north bank of the River mouth as well as from broader catchment inputs. While turbidity is occasionally elevated in storm and flooding events, it typically is below the water quality objectives for the area (i.e. <6 NTU).

For offshore components, The Eastern and Northern Bay are also monitored monthly as part of the Ecosystem Health Monitoring Program (EHMP) at several locations. Based on the annual report cards produced for the EHMP, this area has consistently received an 'A-' or 'A' rating.

Based on EHMP data, turbidity fluctuates within and across years but typically remains below 3 NTU while nutrient levels are low. The eastern and northern parts of the Bay (East Channel, East Knoll, Spitfire Channel, North West channel) are largely situated outside the influence of flooding events (and associated siltation) from the Brisbane River and other tributaries except in extraordinary flooding events.
South East Queensland experienced floods in February-March 2022, following a period of substantial rainfall. This created high land-generated sediment and pollutant loads, which resulted in the Lower Brisbane Catchment receiving an F in the 2022 Healthy Land and Waterways Scorecard assessment. The 2022 scorecard (Healthy Land and Water, 2022) noted that mud is increasing in eastern Moreton Bay. It is noted that following 2011 and 2013 flood events, estuarine and bay water quality progressively improved in following years and the mud 'footprint' contracted, highlight coastal health recovery can occur.

Habitats

The majority of dredging will occur within soft bottom benthic habitat which consists of unconsolidated sand habitat as well as clays and sandy muds. Other habitats within Moreton Bay include subtidal marine plants (i.e. seagrasses), subtidal reef and mangrove and saltmarsh habitats, and are generally outside the footprint of the project. Moreton Bay provides important habitat for fauna groups including resident and migratory wading birds, seabirds, fish that are of recreational and commercial value, sharks, whales, dolphins, dugongs and marine turtles.

According to Seamap Australia mapping of benthic habitats from 2024, the study area overlaps with the following areas of benthic habitat types:

Dredge and material placement areas:

- Bioturbators = ~6466Ha
- Mixed soft substrata = ~2441Ha
- Sand = ~958Ha
- Seagrass = ~87Ha

Juno Point access road:

- Mangroves = ~0.23Ha
- Mixed soft substrata = ~80m2
- Saltmarsh = ~0.04Ha

Note these are approximate based on existing mapping, however actual presence of these benthic habitats will be verified with further studies.

There are a number of threatened and migratory species that are known to reside or visit Moreton Bay. Further information on habitats within the project area is provided in **Attachment 'R.03.00.MNES_01082024', Section 4.1.3, pp. 27 to 29.** Information on threatened and migratory species is provided in **Attachment 'R.03.00.MNES_01082024', Section 4.3 and 4.4 pp. 40 to 66.**

Coastal Processes

While the near shore planning area (Outer Bar Channel) is heavily influenced by the Brisbane River and terrigenous sediment transport, the nature and behaviour of Moreton Bay channels, sand banks and island shorelines are determined by both their geological evolutionary development and the present-day dominant

forces of tidal currents, ocean swells and local wind waves. **Refer to Attachment 'R.03.00.MNES_01082024', Section 4.1.4, p. 30** for further information on coastal processes.

Refer to Attachment 'R.03.00.MNES_01082024', Section 4 as a whole for further information on environmental values relevant to the project area (pp. 23 to 66).

3.1.2 Describe any existing or proposed uses for the project area.

In addition to the primary maritime services provided by the port, the region has several other existing uses including commercial sand extraction operations and commercial fishing. The Northern Moreton Bay and adjacent coastal areas are utilised in many ways including for cultural, residential, commercial and recreational purposes.

Commercial Sand Extraction

The Government's 2005 Moreton Bay Sand Extraction Strategy consolidated all the commercial (e.g. industry) marine sand extraction locations that had operated in the Bay to an area adjacent to the Spitfire Banks (the Spitfire Permit Area) and to the Middle Banks area, although the latter has not been used for several years.

Quarry material allocation notices (issued under the *Coastal Protection and Management Act 1995* and administered by the DESI) are the primary regulatory instrument for controlling sand extraction in the Bay. The allocation notices limit the annual amount of material that can be taken by industry as well as limiting the depth of dredging. In accordance with the 20 to 25-year strategy, total allocations to industry are targeted at an annual volumetric limit of 1 million cubic metres per year (~20M m3 over 20 years).

Advice from the industry is that approximately 25% of sand supply for concrete manufacture in south-east Queensland (SEQ) utilises Moreton Bay sand. The industry, as represented by the CCAA, has indicated that projections are that there will continue to be strong demand for sand from Moreton Bay over the next 20 to 25-year timeframe at a similar rate of extraction (1 Mm3 /yr).

Commercial Fishing

There are number of commercial fisheries that operate at the mouth of the Brisbane River including:

- Beam trawl - this is a multi-species prawn fishery, but incidental by-catch is also marketed. Trawling is undertaken year round throughout the lower Brisbane River (possibly including areas within and adjacent to the proposed swing basin) and the Mud Island DMPA (outside the shallow water Habitat Protection zone encompassing Mud Island), where water levels permit.
- Inshore netting - netting is a significant fishery in western Moreton Bay and a variety of netting methodologies, such as haul, tunnel, and mesh (or gill) netting are used, depending on site conditions and target species.
- Line fishery – typically undertaken around reefs and other hard structures.

Moreton Bay has a long history of commercial fishing. At present, the key fishery is the commercial trawl fishery followed by the bream, mullet and whiting net fisheries and the mud crab pot fishery. Together these fisheries in Moreton Bay account for 12% of the total fish catch in Queensland (Thurstan et al. 2019). In particular, the Moreton Bay commercial prawn trawl fishery, which primarily targets greasyback (*Metapenaeus bennettae*) and school prawns (*M. macleayi*), is one of the main prawn fisheries in Queensland.

The commercial fishing area covers the existing channel area and most of Moreton Bay. The dominant fishery is the commercial trawl fishery, consistent with general trends for Moreton Bay. Within the northern bay, this commercial trawl occurs only in the more southern banks, including east Knoll, and is absent in

more northern areas. This may indicate the higher productivity of southern and central areas of the bay or limitations on trawl fishery operations and/or productivity in more northern locations. The second most important fishery is the commercial pot fishery, which occurs throughout the bay.

Cultural Heritage

Indigenous Cultural Heritage

PBPL is committed to working with Traditional Owner stakeholders as part of this process. It has just released its second Reconciliation Action Plan and looks forward to working with existing stakeholders and developing new relationships on this journey.

There are no current claims or determinations over the proposed area to be dredged, however the Quandamooka were granted native title over parts of Moreton Bay in 2011 by the Federal Court. The Kabi Kabi also have a claim over the onshore area adjacent to the northern part of the existing shipping channel. The Yugara/Yugarapul People and Turrbal People made an application for a determination of native title over land adjacent to parts of the shipping channel, however it was determined by the Court that native title does not exist over these areas.

With respect to Aboriginal cultural heritage, the Moreton Bay Sand Extraction Study (MBSES) Strategy (Queensland Government, 2005) concluded that:

- Northern Moreton Bay and adjacent coastal areas are utilised in many ways for cultural, residential, commercial and recreational purposes. In particular, the areas are important to a number of Indigenous family groups and are the subject of several native title claims (both registered and unregistered).
- Previous cultural heritage work in Moreton Bay has highlighted that the entire landscape and seascape are part of the Indigenous cultural heritage of the region;
- Fesl and Davies (2004) completed a specific study of potential impacts of sand extraction in northern Moreton Bay on Indigenous cultural heritage for Phase 2 of the MBSES. A review of available information was undertaken, including the geological investigation by PPK (1998), and key findings were as follows:
    - The area proposed for sand extraction was, prior to the most recent sea level rise (the Holocene marine transgression), a terrestrial plain that was probably used and valued by the original inhabitants at the time.
    - Much of this pre-Holocene land surface is now overlain by sand deposits (typically between 5 – 10 metres thick). However, there is potential for dredging to disturb the ancient land surface and/or significant archaeological items.
    - Although no specific places of Indigenous cultural significance were identified in the course of the study, it was determined that there is potential for finding Indigenous cultural sites and/or materials in the study area.

The MBSES strategy went on to state that -

…consultation was undertaken with potentially affected groups on several occasions and the strong conservation desires of Indigenous Traditional Owner groups were documented. In general, no representatives of Indigenous Traditional Owner groups expressed a view favouring continued or additional sand extraction in northern Moreton Bay. All involved in the discussions expressed the view that if extraction was to occur, potential impacts on artefacts below the surface must be considered. Any sand extraction that impacts upon the prior land surface of the now submerged study area has the potential to impact upon not only Indigenous archaeological and cultural sites/places that may have been present but also the cultural landscape which has continuing contemporary significance.

If an EIS is required for the Project, a Cultural Heritage Management Plan under Part 7 of the *Aboriginal Cultural Heritage Act 2003* will be required. A CHMP is an agreement between PBPL and an 'endorsed' Aboriginal party for the Project area which is developed in accordance with Part 7 and sets out how works

could be managed to avoid or minimise harm to Aboriginal cultural heritage. **Figure 4.3 within Attachment 'R.03.00.MNES_01082024', Section 4.1.5, p.32** provides a map showing native title group locations surrounding the project area.

Non-Indigenous Cultural Heritage

There are no known items of European heritage within the dredging footprint, including shipwrecks or sunken planes.

3.1.3 Describe any outstanding natural features and/or any other important or unique values that applies to the project area.

Mangrove and salt marsh communities (threatened ecological community) are present along the coast and nearshore areas of Moreton Bay. These vegetative communities are not within the direct dredge footprint, however may be impacted should reclamation at Juno Point occur. The existing navigational channel travels beside Moreton and Bribie Islands, close to the boundary of the Moreton Bay Ramsar wetland (but not within), and Moreton Bay is also an important habitat for threatened and migratory shorebirds.

All of these matters are further discussed in part 4 of this referral and in **Attachment 'R.03.00.MNES_01082024', Section 4.2, 4.3 and 4.4, pp. 33 to 66.**

3.1.4 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

The bathymetry of the Moreton Bay region is complex, but can generally be divided into a shallow western and southern area (<10m in depth) with a deeper central area (10-25m in depth) with numerous shallow sand banks. These banks are separated by deeper tidal channels, with the deepest coinciding with the main shipping channel. Moreton Bay has a maximum semi-diurnal tidal range of 2.8m. The existing navigational channel is between 10 and 15m in depth (at Lowest Astronomical Tide); the expanded channel will be deepened to -17.3m LAT.

3.2 Flora and fauna

3.2.1 Describe the flora and fauna within the affected area and attach any investigations of surveys if applicable.

A search of the EPBC Database (PMST) was undertaken for the study area, including both the dredge footprint and potential placement options. This identified **86 threatened species (44 birds, 3 fish, 1 frog, 1 insect, 11 mammals, 9 reptiles, 5 sharks and 12 plant species) and 79 migratory species (58 birds, 8 mammals, 6 reptiles and 7 sharks)** which may occur in that area. Of these, 7 marine-based species are considered critically endangered:

- regent honeyeater (*Anthocaerae phyrygia*);
- Australian fritillary (*Argynnis hyaerbius inconstans*);
- curlew sandpiper *(Calidris ferruginea);*
- grey nurse shark (*Carcharius taurus*) (east coast population);
- Coxen's fig parrot (*Cylcopsittia diophthalma coxen);*
- swift parrot (*Lathamus discolor*);
- eastern curlew (*Numenius Madagascariensis*);

The study area is also a Biologically Important Area (BIA) for several cetacean, marine turtle, bird, and shark species. The EPBC Protected Matters Search Tool (PMST) maps the Moreton Bay region as habitat critical to the survival of marine turtles (2023).

Additional information on flora and fauna is provided in Attachment 'R.03.00.MNES_01082024', Section 4.3 and 4.4, pp. 40 to 66, and will be further discussed in section 4 of this referral.

3.2.2 Describe the vegetation (including the status of native vegetation and soil) within the project area.

Marine sediment in Moreton Bay region is variable, however material to be dredged is generally characterised clean fine to medium grained sand and well sorted, slightly shelly sand. Soft bottom benthic habitat consisting of clays and sandy mud is prevalent in the nearshore areas and unconsolidated sand habitat in the offshore region. These habitats support macroalgae such as Caulerpa and seagrass species. Seagrass meadows exist throughout Moreton Bay, with the most permanent meadows found in the Eastern Banks/ Rous Channel area and Southern Bay. Some ephemeral seagrass may occur in the area to be disturbed, however this is expected to be minimal. Seagrass also exists nearshore surrounding Juno Point. There is potential to indirectly affect seagrass beds near East Knoll through sedimentation or turbidity.

There are no known coral or rocky reefs in the proposed dredge footprint and dredge plumes are unlikely to affect known, mapped reef habitat.

Mangrove and saltmarsh environments are mapped along the coast such as Juno Point, Mud Island and other nearshore areas of Moreton Bay. These marine plants are not directly within the dredge footprint, however may be impacted through reclamation at Juno Point should this occur, although any disturbance would be minimised through careful design that avoids this vegetation.

Juno Point (Lot 8 on SP268662), according to Queensland Government mapping (2024a), exhibits the following remnant regional ecosystems in the area proposed to be disturbed for the access road:

- Saltpan vegetation including grassland, herbland and sedgeland on marine clay plains)
- Mangrove shrubland to low closed forest on marine clay plains and estuaries)

Both of these regional ecosystems are Category B least concern. The expected approximate area of disturbance of the access road to these regional ecosystems is ~0.27Ha. Further ground truthing to determine the extent of the presence of these regional ecosystems will be undertaken as part of further studies.

For further information on marine habitats refer to **Attachment 'R.03.00.MNES_01082024', Section 4.1, Section 4.2, Section 4.3 and Section 4.4, pp. 23 to 66.**

3.3 Heritage

3.3.1 Describe any Commonwealth heritage places overseas or other places recognised as having heritage values that apply to the project area.

There are no Commonwealth heritage places overseas within the project area.

3.3.2 Describe any Indigenous heritage values that apply to the project area.

Northern Moreton Bay and adjacent coastal areas are utilised in many ways for cultural, residential, commercial and recreational purposes. In particular, the areas are important to a number of Indigenous family groups and are the subject of several native title claims (both registered and unregistered).

There are no current claims or determinations over the proposed area to be dredged, however the Quandamooka were granted native titles over parts of Moreton Bay in 2011 by the Federal Court. The Kabi Kabi have a claim over the onshore area adjacent to the northern part of the existing shipping channel. The Yuggera/Yugarapul People and Turrbal People made an application for determination of native title over lands adjacent to parts of the shipping channel, however it was determined by the Court that native title does not exist over those areas.

With respect to Aboriginal cultural heritage, the Moreton Bay Sand Extraction Study (MBSES) Strategy (Queensland Government, 2005) concluded that:

- Northern Moreton Bay and adjacent coastal areas are utilised in many ways for cultural, residential, commercial and recreational purposes. In particular, the areas are important to a number of Indigenous family groups and are the subject of several native title claims (both registered and unregistered).

- Previous cultural heritage work in Moreton Bay has highlighted that the entire landscape and seascape are part of the Indigenous cultural heritage of the region;
- Fesl and Davies (2004) completed a specific study of potential impacts of sand extraction in northern Moreton Bay on Indigenous cultural heritage for Phase 2 of the MBSES. A review of available information was undertaken, including the geological investigation by PPK (1998), and key findings were as follows:
    - The area proposed for sand extraction was, prior to the most recent sea level rise (the Holocene marine transgression), a terrestrial plain that was probably used and valued by the original inhabitants at the time.
    - Much of this pre-Holocene land surface is now overlain by sand deposits (typically between 5 – 10 metres thick). However, there is potential for dredging to disturb the ancient land surface and/or significant archaeological items.
    - Although no specific places of Indigenous cultural significance were identified in the course of the study, it was determined that there is potential for finding Indigenous cultural sites and/or materials in the study area.

The MBSES strategy went on to state that -

…consultation was undertaken with potentially affected groups on several occasions and the strong conservation desires of Indigenous Traditional Owner groups were documented. In general, no representatives of Indigenous Traditional Owner groups expressed a view favouring continued or additional sand extraction in northern Moreton Bay. All involved in the discussions expressed the view that if extraction was to occur, potential impacts on artefacts below the surface must be considered. Any sand extraction that impacts upon the prior land surface of the now submerged study area has the potential to impact upon not only Indigenous archaeological and cultural sites/places that may have been present but also the cultural landscape which has continuing contemporary significance.

PBPL will work with indigenous groups to further explore sea country cultural values and the potential for archaeological material to be identified during dredging activity.

3.4 Hydrology

3.4.1 Describe the hydrology characteristics that apply to the project area and attach any hydrological investigations or surveys if applicable. *

The lower Brisbane River and Outer Bay area are mapped as a semi-enclosed coastal/ lower estuary, of approximately 1525km2, bounded on its eastern side by the large sand islands of Moreton, North and South Stradbroke Islands (Dennison, W & Abal, E., 1999). These barrier islands restrict the exchange of oceanic water, and the water is generally shallow (6-8m depth on average). The Caboolture, North Pine, Brisbane and Logan Rivers all drain to Moreton Bay. Generally, there is a pattern of northern water movement on the western side of the Bay and southward water movement on the eastern side, with an overall clockwise pattern of circulation. Most tidal exchange occurs via the North passage, between North Stradbroke Island and Bribie Islands.

Refer to Attachment ‘R.03.00.MNES_01082024', Section 4.1.4, p. 30 for further information on hydrology and coastal processes.

4. Impacts and mitigation

4.1 Impact details

Potential Matters of National Environmental Significance (MNES) relevant to your proposed action area.

EPBC Act section	Controlling provision	Impacted	Reviewed
S12	World Heritage	No	Yes
S15B	National Heritage	No	Yes
S16	Ramsar Wetland	Yes	Yes
S18	Threatened Species and Ecological Communities	Yes	Yes
S20	Migratory Species	Yes	Yes
S21	Nuclear	No	Yes
S23	Commonwealth Marine Area	No	Yes
S24B	Great Barrier Reef	No	Yes
S24D	Water resource in relation to large coal mining development or coal seam gas	No	Yes
S26	Commonwealth Land	No	Yes
S27B	Commonwealth Heritage Places Overseas	No	Yes
S28	Commonwealth or Commonwealth Agency	No	Yes

4.1.1 World Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.1.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.1.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The project area does not interact with and is not located within any World Heritage areas.

4.1.2 National Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.2.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.2.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The project area is not within any National Heritage areas and is not anticipated to interact with any national heritage values.

4.1.3 Ramsar Wetland

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Ramsar wetland
No	Yes	Moreton Bay

4.1.3.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.3.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

No dredging works or placement activity will occur within the Moreton Bay Ramsar site itself, and the majority of dredging or potential dredge placement sites are a significant distance from the Ramsar boundary. Where the existing navigational channel swings close to Moreton Island however, dredging may occur within 1-2km of the Ramsar wetland boundary. Reclamation, should it occur at Juno Point or Fisherman Island expansion DMPA, would also see works occurring within 2km of Ramsar wetland boundaries. As such, it is possible there will be indirect impacts to the Ramsar site values including:

- Potential changes to water quality during dredging and dredge material placement
- Impacts to other marine and tidal habitats (i.e. mangroves, seagrass) potentially affected by indirect turbid plumes or other water quality impacts
- Noise and artificial lighting impacts to Ramsar wetland species
- Potential changes to coastal processes that may alter hydrodynamics of a small area of the Ramsar wetland should Juno Point or Fisherman Island expansion reclamation areas be constructed. Further investigation and modelling is required to confirm the extent of impacts in these scenarios.

4.1.3.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

Yes

4.1.3.5 Describe why you consider this to be a Significant Impact. *

There are no dredging or placement works proposed within the Ramsar Wetland, however, as described in Section 4.1.3.2, there is potential for indirect impacts to a small part of the wetland in close proximity to the potential Juno Point DMPA or southeast of the Fisherman Island Expansion DMPA should it be the preferred placement option. To determine whether the Project may significantly affect these parts of the much larger Ramsar site, an assessment against the significance criteria has been undertaken.

Areas of the wetland being destroyed or substantially modified

As no works are proposed within the Ramsar wetland this would not occur as a result of the Project.

A substantial and measurable change in the hydrological regime of the wetland, for example, a substantial change to the volume, timing, duration and frequency of ground and surface water flows to and within the wetland

Dredging will widen the existing navigational channel; whilst this will largely occur a significant distance from the Ramsar Wetland boundary, some widening will occur within 1-2km of the Ramsar boundary near Moreton Island, on its western side. Any widening will be undertaken on the western side of the existing navigational channel, which is expected to limit significant changes to wetland flows. Hydrodynamic modelling will be performed as part of an EIS to confirm this assumption.

The construction of a reclaimed area at Juno Point may potentially impact hydrodynamics of the Ramsar Wetland in that area at a local scale. Currents within this part of Moreton Bay travel in a northerly direction. The construction of the Port of Brisbane expansion has already substantially altered flows at the mouth of the Brisbane River, and in some aspects, should protect the Ramsar wetland to the north of Juno Point from further significant changes. Similarly, should the Fisherman Island Expansion DMPA be utilised, this will narrow the channel between the port and Mud Island and potentially impact hydrology near and within the mapped Ramsar boundary on Mud Island. Again, hydrodynamic modelling is required to confirm if impacts would occur, and the extent of these impacts should they occur.

The habitat or lifecycle of native species, including invertebrate fauna and fish species, dependent upon the wetland being seriously affected

There are no works proposed within the wetland therefore there will be no direct impacts to species dependent on the Ramsar Wetland. There is potential for indirect impacts to water quality, biosecurity etc. that may negatively impact habitat or the lifecycle of native species however these can be controlled with standard mitigation measures and are not expected to have a significant impact on the Ramsar Wetland itself.

A substantial and measurable change in the water quality of the wetland – for example, a substantial change in the level of salinity, pollutants, or nutrients in the wetland, or water temperature which may adversely impact on biodiversity, ecological integrity, social amenity or human health.

Indirect impacts to water quality could occur as a result of turbid plumes from dredging, disturbance of contaminated or acidic or spills from the dredge vessel. As described above, much of the dredging does not occur in proximity to the Ramsar wetland boundary. In areas where dredging is closer to the boundary, the material to be dredged is sandy in nature and is not expected to contain contaminants or acidic material. It is therefore not expected to cause significant dredge plumes that would have a measurable or substantial change on water quality of the Ramsar Wetland.

An invasive species that is harmful to the ecological character of the wetland being established (or an existing invasive species being spread) in the wetland.

PBPL successfully undertakes maintenance dredging using its dredge ‘the Brisbane’ on an annual basis. There has been no known outbreak of invasive species as a result of this dredging; the vessel is regularly inspected for pest species. In addition, the port undertakes regular invasive species monitoring throughout

the port so that any outbreak can be promptly identified, and remediation actions put in place.

Whilst it is considered unlikely that dredging activity would have a significant impact on the Moreton Bay Ramsar Wetland, as a precautionary measure, this MNES has been triggered because of the proximity of the potential Juno Point and Fisherman Island expansion reclamation areas to the wetland boundary. This may potentially have indirect impacts on water quality and coastal processes, however further investigation is required to quantify the level of impact and identify appropriate mitigation measures that may be applied to reduce the impact significance.

4.1.3.7 Do you think your proposed action is a controlled action? *

Yes

4.1.3.8 Please elaborate why you think your proposed action is a controlled action. *

While significant impacts on the Ramsar wetland are not expected (and can be managed with mitigation measures), a project of this size warrants further detailed environmental assessment with the application of mitigation measures and a requirement for ongoing monitoring to ensure any potential impacts to the Ramsar Wetland are either avoided or managed appropriately such that a significant impact does not occur.

4.1.3.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

A core project design criteria has been to avoid dredging and material placement within the Ramsar Wetland itself, as well as other known habitat areas of value.

The Port has a successful history of undertaking dredging and construction of large-scale reclamation projects - they have significant experience in managing potential water quality and hydrological impacts within Moreton Bay from similar activities.

Potential mitigation measures that can be applied through the design, dredging and placement stages may include:

- any contaminated material will be placed within the ports existing reclamation area (or on land) so that it is not placed at sea
- undertaking comprehensive sediment testing to understand the characteristics of the material to be dredged and the presence of any contaminants so they can be appropriately managed
- using this information, as well as data gathered on metocean conditions to model potential turbidity plumes from dredging or placement activity
- developing a reactive water monitoring program that includes:

  - setting water quality triggers or limits upon which actions are taken to decrease turbidity

- agreeing mitigation measures should triggers be reached which may include changing the dredge location, operating only on certain tidal conditions or ceasing works altogether until turbidity falls below trigger levels

- continuous monitoring of turbidity levels so that any exceedances are identified in real time

- If the Juno Point or Fisherman Island expansion reclamation area is the preferred placement site, it will be designed to minimise any potential impacts to coastal processes that might impact the Ramsar wetland to the north, south-east or north-east.

4.1.3.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

Should further assessment identify any significant impacts to the Ramsar wetlands, offsets will be considered.

It is understood that PBPL will need to avoid and mitigate harm before identifying offsets for residual impacts. At this early stage of the project, PBPL are investigating net positive options so these can be examined as early as possible in the planning process. These would largely be direct physical works that can be undertaken within Moreton Bay (or its catchment) with some monetary contribution where beneficial. It is understood that offsets should be ‘like for like’.

PBPL have previously identified and commenced a number of offset projects, both to meet approval applications and voluntarily. PBPL have already successfully built an artificial roost site for migratory shorebirds as part of their offset requirements for the original FPE construction project which has now become regionally significant in Moreton Bay. They also voluntarily undertake catchment restoration projects in the Upper Brisbane River to reduce sediment loads to Moreton Bay. Similar options would be possible for this Project, with an option to provide additional habitat within the reclaimed area and/or new rehabilitation sites also.

One of the offsets that could be looked at should there be a residual impact to the Moreton Bay Ramsar wetland is whether similar habitat can be recreated within the Juno Point reclamation area should it proceed, or whether there are further opportunities to expand PBPL's existing water quality program that contributes to reduced sediment loads within the Moreton Bay catchment.

4.1.4 Threatened Species and Ecological Communities

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Threatened species

Direct impact	Indirect impact	Species	Common name
No	No	Acacia attenuata	
No	No	Acronychia littoralis	Scented Acronychia

Direct impact	Indirect impact	Species	Common name
No	No	Anthochaera phrygia	Regent Honeyeater
Yes	Yes	Ardenna grisea	Sooty Shearwater
Yes	Yes	Arenaria interpres	Ruddy Turnstone
No	No	Argynnis hyperbius inconstans	Australian Fritillary
No	No	Arthraxon hispidus	Hairy-joint Grass
No	Yes	Balaenoptera borealis	Sei Whale
No	Yes	Balaenoptera musculus	Blue Whale
No	Yes	Balaenoptera physalus	Fin Whale
No	No	Baloghia marmorata	Marbled Balogia, Jointed Baloghia
No	No	Bosistoa transversa	Three-leaved Bosistoa, Yellow Satinheart
Yes	Yes	Botaurus poiciloptilus	Australasian Bittern
Yes	Yes	Calidris acuminata	Sharp-tailed Sandpiper
Yes	Yes	Calidris canutus	Red Knot, Knot
Yes	Yes	Calidris ferruginea	Curlew Sandpiper
Yes	Yes	Calidris tenuirostris	Great Knot
No	No	Calyptorhynchus lathami lathami	South-eastern Glossy Black-Cockatoo
No	Yes	Carcharias taurus (east coast population)	Grey Nurse Shark (east coast population)
No	Yes	Carcharodon carcharias	White Shark, Great White Shark
Yes	Yes	Caretta caretta	Loggerhead Turtle
No	No	Chalinolobus dwyeri	Large-eared Pied Bat, Large Pied Bat
Yes	Yes	Charadrius leschenaultii	Greater Sand Plover, Large Sand Plover
Yes	No	Charadrius mongolus	Lesser Sand Plover, Mongolian Plover
No	Yes	Chelonia mydas	Green Turtle
Yes	Yes	Cherax robustus	Sand Yabby
No	No	Climacteris picumnus victoriae	Brown Treecreeper (south-eastern)
No	No	Coeranoscincus reticulatus	Three-toed Snake-tooth Skink

Direct impact	Indirect impact	Species	Common name
No	No	Cryptocarya foetida	Stinking Cryptocarya, Stinking Laurel
No	No	Cryptostylis hunteriana	Leafless Tongue-orchid
No	No	Cupaniopsis shirleyana	Wedge-leaf Tuckeroo
No	No	Cyclopsitta diophthalma coxeni	Coxen's Fig-Parrot
No	No	Dasyurus hallucatus	Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu]
No	No	Dasyurus maculatus maculatus (SE mainland population)	Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population)
No	No	Delma torquata	Adorned Delma, Collared Delma
Yes	Yes	Dermochelys coriacea	Leatherback Turtle, Leathery Turtle, Luth
No	No	Diomedea antipodensis	Antipodean Albatross
No	Yes	Diomedea antipodensis gibsoni	Gibson's Albatross
No	Yes	Diomedea exulans	Wandering Albatross
No	No	Epinephelus daemelii	Black Rockcod, Black Cod, Saddled Rockcod
No	Yes	Eretmochelys imbricata	Hawksbill Turtle
No	No	Erythrotriorchis radiatus	Red Goshawk
No	Yes	Eubalaena australis	Southern Right Whale
No	No	Eucalyptus conglomerata	Swamp Stringybark
No	No	Falco hypoleucos	Grey Falcon
No	No	Fregetta grallaria grallaria	White-bellied Storm-Petrel (Tasman Sea), White-bellied Storm-Petrel (Australasian)
Yes	Yes	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
No	No	Grantiella picta	Painted Honeyeater
No	No	Hemiaspis damelii	Grey Snake
No	Yes	Hippocampus whitei	White's Seahorse, Crowned Seahorse, Sydney Seahorse
No	No	Hirundapus caudacutus	White-throated Needletail
No	No	Lathamus discolor	Swift Parrot

Direct impact	Indirect impact	Species	Common name
Yes	Yes	Lepidochelys olivacea	Olive Ridley Turtle, Pacific Ridley Turtle
Yes	Yes	Limnodromus semipalmatus	Asian Dowitcher
Yes	Yes	Limosa lapponica baueri	Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit
Yes	Yes	Limosa limosa	Black-tailed Godwit
No	No	Litoria olongburensis	Wallum Sedge Frog
No	No	Macadamia integrifolia	Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak
No	No	Macadamia ternifolia	Small-fruited Queensland Nut, Gympie Nut
No	No	Macadamia tetraphylla	Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia, Rough-leaved Queensland Nut
No	No	Macronectes giganteus	Southern Giant-Petrel, Southern Giant Petrel
No	No	Macronectes halli	Northern Giant Petrel
No	Yes	Mordacia praecox	Non-parasitic Lamprey, Precocious Lamprey
No	No	Nannoperca oxleyana	Oxleyan Pygmy Perch
Yes	Yes	Natator depressus	Flatback Turtle
No	No	Notelaea lloydii	Lloyd's Olive
Yes	Yes	Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew
No	No	Pachyptila turtur subantarctica	Fairy Prion (southern)
No	No	Persicaria elatior	Knotweed, Tall Knotweed
No	No	Petauroides volans	Greater Glider (southern and central)
No	No	Petaurus australis australis	Yellow-bellied Glider (south-eastern)
No	No	Phaius australis	Lesser Swamp-orchid
No	No	Phaius bernaysii	Yellow Swamp-orchid
No	No	Phascolarctos cinereus (combined populations of Qld, NSW and the	Koala (combined populations of Queensland, New South Wales and the

Direct impact	Indirect impact	Species	Common name
		ACT)	Australian Capital Territory)
No	No	Phoebetria fusca	Sooty Albatross
No	No	Planchonella eerwah	Shiny-leaved Condoo, Black Plum, Wild Apple
Yes	Yes	Pluvialis squatarola	Grey Plover
No	No	Potorous tridactylus tridactylus	Long-nosed Potoroo (northern)
No	Yes	Pristis zijsron	Green Sawfish, Dindagubba, Narrowsnout Sawfish
No	No	Pseudomugil mellis	Honey Blue Eye, Honey Blue-eye
No	No	Pterodroma neglecta neglecta	Kermadec Petrel (western)
No	No	Pteropus poliocephalus	Grey-headed Flying-fox
No	Yes	Rhincodon typus	Whale Shark
No	No	Rhodamnia rubescens	Scrub Turpentine, Brown Malletwood
No	No	Rhodomyrtus psidioides	Native Guava
No	Yes	Rostratula australis	Australian Painted Snipe
No	No	Samadera bidwillii	Quassia
No	Yes	Seriolella brama	Blue Warehou
No	Yes	Sphyrna lewini	Scalloped Hammerhead
No	No	Stagonopleura guttata	Diamond Firetail
No	No	Sternula nereis nereis	Australian Fairy Tern
No	No	Syzygium hodgkinsoniae	Smooth-bark Rose Apple, Red Lilly Pilly
No	No	Thalassarche carteri	Indian Yellow-nosed Albatross
No	No	Thalassarche cauta	Shy Albatross
No	No	Thalassarche impavida	Campbell Albatross, Campbell Black-browed Albatross
No	No	Thalassarche melanophris	Black-browed Albatross
No	No	Thalassarche salvini	Salvin's Albatross
No	No	Thalassarche steadi	White-capped Albatross

Direct impact	Indirect impact	Species	Common name
No	No	Thesium australe	Austral Toadflax, Toadflax
No	Yes	Thunnus maccoyii	Southern Bluefin Tuna
Yes	Yes	Tringa nebularia	Common Greenshank, Greenshank
No	No	Turnix melanogaster	Black-breasted Button-quail
Yes	Yes	Xenus cinereus	Terek Sandpiper
Yes	Yes	Xeromys myoides	Water Mouse, False Water Rat, Yirrkoo

Ecological communities

Direct impact	Indirect impact	Ecological community
No	No	Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community
No	No	Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland
No	Yes	Subtropical and Temperate Coastal Saltmarsh
No	No	Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions

4.1.4.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.4.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

Dredging activity may have the following potential impacts on threatened species:

- water quality impacts as a result of dredge plumes, mobilisation of contaminated sediment, accidental spills of contaminants or the release of fine sediments from dredge tailwater should material placed on land require dewatering;
- direct disturbance of soft bottom benthic habitats or ephemeral seagrass habitats and indirect disturbance of other habitats that may support threatened species;
- disturbance of onshore feeding or roosting areas for shorebirds during placement activities should reclamation occur
- creation of additional underwater noise from dredge vessel activity causing disturbance to marine fauna;
- vessel strike or entrainment of marine fauna;

- localised or regional scale changes to waves, currents and sediment transport as a result of a new dredge channel configuration and potential extension of the Fisherman Island DMPA which may disturb habitat for threatened species

A summary is provided below on the species identified to be potentially directly and/or indirectly impacted by the proposed action, however further descriptions of species and their likelihood of being encountered and potential impacts are provided in **Attachment 'R.03.00.MNES_01082024', Section 4.3, pp. 40 to 62.**

Birds

Threatened bird species identified to be potentially impacted by the proposed action are:

- Ruddy turnstone (*Arenaria interpres)*
- Asian dowitcher (*Limnodromus semipalmatus)*
- Australasian bittern (*Botaurus poiciloptilus*)
- Eastern curlew (*Numenius madagascariensis)*
- Great knot (*Calidris tenuirostris)*
- Greater sand plover (*Charadrius leschenaultii*)
- Curlew sandpiper (*Calidris ferruginea)*
- Nunivak bar-tailed godwit (*Limosa lapponica baueri)*
- Red knot (*Calidris canutus)*
- Lesser sand plover (*Charadrius mongolus)*
- Latham's snipe (*Gallinago hardwickii)*
- Sooty shearwater (*Ardenna grisea)*
- Black-tailed godwit (*Limosa limosa)*
- Sharp-tailed sandpiper (*Calidris acuminata)*
- Grey plover (*Pluvialis squatarola)*
- Common greenshank (*Tringa nebularia)*
- Terek sandpiper (*Xenus cinereus)*
- Wandering albatross (*Diomedea exulans)*
- Gibson's albatross (*Diomedea antipodensis gibsoni)*
- Australian Painted Snipe (*Rostratula australis)*

Threatened bird species are most likely to be potentially impacted by

- disturbance of onshore feeding or roosting areas for shorebirds during dredge material placement activities

Mammals

Threatened mammal species identified as potentially directly or indirectly impacted by the proposed action are:

- Blue whale (*Balaenoptera musculus*)
- Fin whale (*Balaenoptera physalus*)
- Sei whale (*Balaenoptera borealis*)
- Southern right whale (*Eubalaena australis*)
- Water mouse (*Xeromys myoides)*

Cetacean species are most likley to be potentially impacted by the following impacts:

- water quality impacts as a result of dredge plumes, mobilisation of contaminated sediment, accidental spills of contaminants or the release of fine sediments from dredge tailwater should material placed on land require dewatering;
- underwater noise from dredge vessel activity causing disturbance to marine fauna;
- vessel strike or entrainment of marine fauna.

The water mouse is most likely to be potentially impacted by the following:

- water quality impacts as a result of dredge plumes, mobilisation of contaminated sediment, accidental spills of contaminants or the release of fine sediments from dredge tailwater should material placed on land require dewatering;
- Disturbance of onshore habitat for mammal species utilising the shoreline for feeding and habitat
- localised or regional scale changes to waves, currents and sediment transport that impacts coastal habitat

Reptiles

Threatened reptile species identified as potentially being directly or indirectly impacted by the proposed action are:

- Loggerhead turtle (*Caretta caretta)*
- Leatherback turtle (*Dermochelys coriacea)*
- Flatback turtle (*Natator depressus*)
- Green turtle (*Chelonia mydas*)
- Hawksbill turtle (*Eretmochelys imbricata*)
- Olive ridley turtle (*Lepidochelys olivacea*)

Reptile species are most likely to be potentially impacted by the following impacts:

- water quality impacts as a result of dredge plumes, mobilisation of contaminated sediment, accidental spills of contaminants or the release of fine sediments from dredge tailwater should material placed on land require dewatering;
- vessel strike of marine fauna;
- direct disturbance of soft bottom benthic habitats or ephemeral seagrass habitats and indirect disturbance of other habitats;
- localised or regional scale changes to waves, currents and sediment transport as a result of a new dredge channel configuration.

Fish and Sharks

Fish and shark species considered to be potentially directly or indirectly impacted by the proposed action are:

- Sand Yabby (*Cherax robustus)*
- Green sawfish (*Pristis zijsron)*
- White's Seahorse (*Hippocampus whitei)*
- Blue warehou (*Seriolella brama)*
- White shark (*Carcharodon carcharias)*
- Scalloped hammerhead (*Sphyrna lewini*)
- Whale shark (*Rhincodon typus)*
- Grey nurse shark east coast population (*Carcharias taurus)*
- Non-parasitic Lamprey (*Mordacia praecox*)
- Southern bluefin tuna (*Thunnus maccoyii*)

Fish and shark species are most likely to be potentially impacted by the following impacts:

- water quality impacts as a result of dredge plumes, mobilisation of contaminated sediment, accidental spills of contaminants or the release of fine sediments from dredge tailwater should material placed on land require dewatering;
- underwater noise from dredge vessel activity causing disturbance to marine fauna;

- localised or regional scale changes to waves, currents and sediment transport as a result of a new dredge channel configuration.
- direct disturbance of soft bottom benthic habitats or ephemeral seagrass habitats and indirect disturbance of other habitats (in the case of the sand yabby)

Threatened Ecological Communities

With regard to threatened ecological communities, 3 of the 4 identified communities in the PMST search are terrestrial and will not be impacted by the proposed action. The Subtropical and Temperate Coastal Saltmarsh community is likely to be present at Juno Point and may be impacted by reclamation activities. Further determination of the extent of this community and whether it is actually present in the area, exhibits characteristics that see it fit the criteria to be a TEC, and to determine if this TEC will be impacted should reclamation activities at Juno Point occur will be undertaken as part of the EIS.

4.1.4.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

Yes

4.1.4.5 Describe why you consider this to be a Significant Impact. *

For an impact to a threatened species or ecological community to be significant, the criteria within the Matters of National Environmental Significance Significant Impact Guidelines 1.1 must be assessed against. It should be noted that further studies to determine potential impacts and mitigations strategies would be undertaken as part of the EIS. Further information on threatened species in the project area and potential impacts is provided in **Attachment 'R.03.00.MNES_01082024', Section 4.3, pp. 40 to 62.**

Critically Endangered and Endangered Species

A potential significant impact may occur to threatened shorebird and wader species in the event that reclamation occurs at Juno Point which provides feeding opportunities for a number of species. In the event that reclamation at Juno Point is chosen for placement, this is likely to disturb areas at Juno Point. Consideration on how this reclamation is designed and how this impact will be offset is required should it occur (potentially through rehabilitation of another roosting area or creation of a new artificial one).

Dredging activities are not expected to have significant impacts on marine species (including turtles, fish, sharks or whales). Dredging will occur in an area already heavily trafficked by commercial shipping vessels and in areas where there are no known significant habitat values e.g. seagrass beds, breeding areas. Soft bottom benthic habitats that may support prey species will be temporarily impacted during dredging but are expected to recover post disturbance. Recolonisation of deeper habitat areas (as a result of deepening and widening) is not expected to result in a permanent change in ecosystem character noting that previous studies of Moreton Bay following dredging have indicated equivalent species abundance and diversity to more shallow environments.

No long-term reduction in population sizes are expected due to the dredging's placement, avoidance of seagrass, expected recovery of benthic habitats and activity predominantly within areas of already-established channels. Whale species are not known to have habitat in the study area. Dredging activities are not expected to decrease areas of occupancy for species inhabiting Moreton Bay (marine turtles, grey nurse shark). Grey nurse sharks have only a foraging BIA in the project area, which they will be able to continually use as dredging will not create a barrier to access. Seagrass is to be avoided, therefore these areas will continue to be available for marine turtles. While loggerhead turtles do have a nesting BIA mapped, dredging activities will impact only temporarily on area of occupancy. The dredging and placement works would be undertaken utilising local vessels, limiting the likelihood of bringing invasive species into the area. As such, no invasive species or disease introduction is expected. Underwater noise

may also be created by dredging vessels or support vessels, however this is not expected to be considered significant given the heavy container vessel traffic already using the existing navigational channels. Water quality modelling will be undertaken as part of the EIS process to understand the likely extent of any dredge plumes, and avoidance of stiff clay Pleistocene and indurated coffee sand will seek to minimise impacts to water quality of Moreton Bay. The two 'at sea' placement options have similar impacts, in that the main impacts experienced would be the loss of benthic habitat at the placement site, sediment plumes during the placement of material and long-term resuspension of placed material. The preferred sites have been situated away from known seagrass and other important marine habitats in the eastern and southern bay. They are located in deep water, which limits the potential for resuspension of sediment following placement.

Vulnerable Species

Impacts to vulnerable species are expected to be similar, with significant impacts to any vulnerable shorebird species possible in the event of reclamation at Juno Point occurring. The only marine species with a BIA in the area is the green turtle, which is a BIA for foraging. No vulnerable species are known to have a breeding area in the project area, with marine species expected to use the Moreton Bay area temporarily and as a foraging site. As above, with the temporary and mobile nature of the works, expected recovery of benthic habitats, lack of species inhabiting the channels and existing shipping traffic and disturbance, significant impacts to vulnerable marine species potentially occurring in the area are not expected.

Threatened Ecological Communities

With regard to threatened ecological communities, 3 of the 4 identified communities in the PMST search are terrestrial and will not be impacted by the proposed action. The Subtropical and Temperate Coastal Saltmarsh community is possibly present at Juno Point and may be impacted by reclamation activities. Further determination of the extent of this species and whether it is actually present in the area, exhibits characteristics that see it fit the criteria to be a TEC, and to determine if this TEC will be impacted should reclamation activities at Juno Point occur will be undertaken as part of the EIS.

Whilst there are expected to be minor and temporary indirect impacts to marine species from dredging, these are unlikely to be considered significant. The main potential impact to threatened species is loss of feeding habitat for migratory birds, should the Juno Point reclamation be the preferred placement site for dredge material. this may be offset by a dedicated area within the reclamation to provide replacement habitat, as has occurred in the FPE reclamation area which provides significant habitat for shorebird species.

4.1.4.7 Do you think your proposed action is a controlled action? *

Yes

4.1.4.8 Please elaborate why you think your proposed action is a controlled action. *

Whilst dredging is to occur within and immediately adjacent to the existing shipping channel, the volume to be disturbed is significant and will require stringent management to ensure dredge plumes and habitat disturbance is minimised. Further, should reclamation at Juno Point occur, potential impacts to shorebird feeding areas would contribute to the proposed action's classification as a controlled action. Further studies will be required to verify shorebird presence and how they may be impacted and potential impacts to water quality. Offset options for potential significant impacts to bird species are discussed in 4.1.4.11.

4.1.4.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

Primarily, the dredge and placement areas have been chosen to avoid areas of known critical habitat within Moreton Bay. Works are to not occur within the Habitat Protection Area of the Moreton Bay Marine Park or the Ramsar wetland. Other areas mapped as containing seagrass or mangrove habitat have also been avoided.

A range of mitigation and monitoring measures embedded within management plans will be developed to support the project in accordance with current best practice approaches to dredging environmental management. In alignment with other major capital dredging projects, plans related to environmental management measures include but are not limited to: Dredge Management Plan, Marine Environmental Management Plan and Vessel Management Plans. Mitigation measures outlined in these plans will include:

- further surveys to map habitat values
- Minimising dredge vessel lighting, noise emissions and other disturbance based on best practice standards
- Dredge vessel ‘soft start’ protocols to minimise noise disturbance
- Stop works procedures applied if interaction between dredge vessel and fauna
- Setting water quality objectives and triggers
- Ongoing water quality monitoring during dredging and placement activity
- Dredge head to be fitted with fauna exclusion devices to prevent entrainment of marine fauna

Reclamation activities, should they occur at Juno Point, will also need to be undertaken in such a way that disturbance to bird habitat areas is minimised, however this planning will need to occur once further surveys of the area to verify shorebird populations. In the first instance, the viability of provision of artificial roosting as part of the reclamation design (or other sites within Moreton Bay) will need to be considered. **Attachment ‘R.03.00.MNES_01082024’, Section 5.1 (p. 67), Section 5.3, (pp. 68 to 69) and Section 6 (pp. 70 to 71)** outlines mitigation measures generally for the project and specific measures for threatened and migratory species.

4.1.4.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

A potential impact to threatened shorebird and wader species has been identified as a potential should reclamation at Juno Point occur. As such, offsets for this disturbance have been considered. An Offset Management Plan will be developed after further surveys of bird presence have occurred and design of the reclamation area finalised.

Some initial direct and indirect offset options with nature positive outcomes have been considered based on recommendations from the Fuller et al report (2021). Further information about these options is provided in **Attachment ‘R.03.00.MNES_01082024’, Section 6, pp. 70 to 71,** however a summary of potential options for direct offsets is as follows:

- An artificial wetland area within the Juno Point reclamation area
- Rehabilitation of Dynah (or Dinah) Island - This was a historical roosting site that is now overgrown with mangroves, making the site unfavourable for many species. Rehabilitation of this site could be

undertaken by PBPL to reinstate this as a suitable roosting area, however this would require clearing of mangroves (and therefore additional discussion with the QLD government) and consultation with Traditional Owners in the area due to Dinah Island being a historical burial ground for Aboriginal communities on Turrbal country.

- Manly Harbour - This is a successful artificial roosting site that supports both internationally and nationally important numbers of multiple species, however requires ongoing commitment to maintain its suitability as a roost site. Actions such as managing vegetation growth to keep lines of visibility, managing water levels, and minimising human disturbance.
- Minjerribah artificial roost - There is potential off Minjerribah (North Stradbroke Island) for provision of closer roosting sites through deposition of sand, or rehabilitation and improvement of existing roost areas. If sand depostition occurs, this would require additional consideration of licensing and environmental impacts from any placement to surrounding values such as the Ramsar wetland and Moreton Bay Marine Park, especially impacts on coastal processes.
- Management measures - A number of management measures of existing feeding and roosting sites could also be implemented to improve habitat value. These include physical reprofiling, erosion control, vegetation management, managing water levels and restricting public access.
- Indirect offsets - While a majority of the offset delivery would be made up of direct offsets suggested above, there is the opportunity to provide an indirect offset component also to supplement the remaining offset requirements. A proposed way of delivering this portion might be to make a contribution to ongoing research of shorebird densities and trends within Moreton Bay. The Fuller et al report identifies that there are some knowledge gaps due to lack of contemporary information on bird populations in the area, therefore providing funding to research of this kind may allow more informed future decisions on habitat provision in Moreton Bay.

4.1.5 Migratory Species

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Species	Common name
Yes	Yes	Actitis hypoleucos	Common Sandpiper
No	No	Anous stolidus	Common Noddy
No	No	Apus pacificus	Fork-tailed Swift
No	No	Ardenna carneipes	Flesh-footed Shearwater, Fleshy-footed Shearwater
No	No	Ardenna grisea	Sooty Shearwater
Yes	Yes	Arenaria interpres	Ruddy Turnstone

Direct impact	Indirect impact	Species	Common name
No	Yes	Balaenoptera borealis	Sei Whale
No	Yes	Balaenoptera edeni	Bryde's Whale
No	Yes	Balaenoptera musculus	Blue Whale
No	No	Balaenoptera physalus	Fin Whale
Yes	Yes	Calidris acuminata	Sharp-tailed Sandpiper
Yes	Yes	Calidris alba	Sanderling
Yes	No	Calidris canutus	Red Knot, Knot
Yes	Yes	Calidris ferruginea	Curlew Sandpiper
Yes	Yes	Calidris melanotos	Pectoral Sandpiper
Yes	Yes	Calidris pugnax	Ruff
Yes	Yes	Calidris ruficollis	Red-necked Stint
Yes	Yes	Calidris tenuirostris	Great Knot
No	No	Calonectris leucomelas	Streaked Shearwater
No	Yes	Carcharhinus longimanus	Oceanic Whitetip Shark
No	Yes	Carcharodon carcharias	White Shark, Great White Shark
Yes	Yes	Caretta caretta	Loggerhead Turtle
Yes	Yes	Charadrius bicinctus	Double-banded Plover
Yes	Yes	Charadrius leschenaultii	Greater Sand Plover, Large Sand Plover
Yes	Yes	Charadrius mongolus	Lesser Sand Plover, Mongolian Plover
Yes	Yes	Charadrius veredus	Oriental Plover, Oriental Dotterel
Yes	Yes	Chelonia mydas	Green Turtle
No	No	Cuculus optatus	Oriental Cuckoo, Horsfield's Cuckoo
Yes	Yes	Dermochelys coriacea	Leatherback Turtle, Leathery Turtle, Luth
No	No	Diomedea antipodensis	Antipodean Albatross
No	No	Diomedea exulans	Wandering Albatross
No	Yes	Dugong dugon	Dugong

Direct impact	Indirect impact	Species	Common name
Yes	Yes	Eretmochelys imbricata	Hawksbill Turtle
No	Yes	Eubalaena australis	Southern Right Whale
No	No	Fregata ariel	Lesser Frigatebird, Least Frigatebird
No	No	Fregata minor	Great Frigatebird, Greater Frigatebird
Yes	Yes	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
Yes	Yes	Gallinago megala	Swinhoe's Snipe
Yes	Yes	Gallinago stenura	Pin-tailed Snipe
No	No	Hirundapus caudacutus	White-throated Needletail
No	Yes	Isurus oxyrinchus	Shortfin Mako, Mako Shark
No	Yes	Isurus paucus	Longfin Mako
No	Yes	Lamna nasus	Porbeagle, Mackerel Shark
No	Yes	Lepidochelys olivacea	Olive Ridley Turtle, Pacific Ridley Turtle
Yes	Yes	Limicola falcinellus	Broad-billed Sandpiper
Yes	Yes	Limnodromus semipalmatus	Asian Dowitcher
Yes	Yes	Limosa lapponica	Bar-tailed Godwit
Yes	Yes	Limosa limosa	Black-tailed Godwit
No	No	Macronectes giganteus	Southern Giant-Petrel, Southern Giant Petrel
No	No	Macronectes halli	Northern Giant Petrel
No	Yes	Megaptera novaeangliae	Humpback Whale
No	Yes	Mobula alfredi	Reef Manta Ray, Coastal Manta Ray
No	Yes	Mobula birostris	Giant Manta Ray
No	No	Monarcha melanopsis	Black-faced Monarch
No	No	Myiagra cyanoleuca	Satin Flycatcher
Yes	Yes	Natator depressus	Flatback Turtle
Yes	Yes	Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew

Direct impact	Indirect impact	Species	Common name
Yes	Yes	Numenius minutus	Little Curlew, Little Whimbrel
Yes	Yes	Numenius phaeopus	Whimbrel
No	Yes	Orcaella heinsohni	Australian Snubfin Dolphin
No	Yes	Orcinus orca	Killer Whale, Orca
No	Yes	Pandion haliaetus	Osprey
No	No	Phaethon lepturus	White-tailed Tropicbird
Yes	Yes	Philomachus pugnax	Ruff (Reeve)
No	No	Phoebetria fusca	Sooty Albatross
Yes	Yes	Pluvialis fulva	Pacific Golden Plover
Yes	Yes	Pluvialis squatarola	Grey Plover
No	Yes	Pristis zijsron	Green Sawfish, Dindagubba, Narrowsnout Sawfish
No	Yes	Rhincodon typus	Whale Shark
No	No	Rhipidura rufifrons	Rufous Fantail
Yes	Yes	Sousa sahulensis	Australian Humpback Dolphin
Yes	Yes	Sternula albifrons	Little Tern
No	No	Symposiachrus trivirgatus	Spectacled Monarch
No	No	Thalassarche carteri	Indian Yellow-nosed Albatross
No	No	Thalassarche cauta	Shy Albatross
No	No	Thalassarche impavida	Campbell Albatross, Campbell Black-browed Albatross
No	No	Thalassarche melanophris	Black-browed Albatross
No	No	Thalassarche salvini	Salvin's Albatross
No	No	Thalassarche steadi	White-capped Albatross
Yes	Yes	Tringa brevipes	Grey-tailed Tattler
No	Yes	Tringa glareola	Wood Sandpiper
Yes	Yes	Tringa incana	Wandering Tattler

Direct impact	Indirect impact	Species	Common name
Yes	Yes	Tringa nebularia	Common Greenshank, Greenshank
Yes	Yes	Tringa stagnatilis	Marsh Sandpiper, Little Greenshank
Yes	Yes	Xenus cinereus	Terek Sandpiper

4.1.5.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.5.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

Dredging activity may have the following potential impacts on migratory species:

- water quality impacts as a result of dredge plumes, mobilisation of contaminated sediment, accidental spills of contaminants or the release of fine sediments from dredge tailwater should material placed on land require dewatering;
- direct disturbance of soft bottom benthic habitats or ephemeral seagrass habitats and indirect disturbance of other habitats;
- disturbance of onshore feeding or roosting areas for shorebirds during placement activities should reclamation occur
- underwater noise from dredge vessel activity causing disturbance to marine fauna;
- vessel strike or entrainment of marine fauna;
- localised or regional scale changes to waves, currents and sediment transport as a result of a new dredge channel configuration.

A summary is provided below on the species identified to be potentially directly and/or indirectly impacted by the proposed action, however further descriptions of species and their likelihood of being encountered and potential impacts are provided in **Attachment 'R.03.00.MNES_01082024', Section 4.4, pp.62 to 66.** Some species, as they are also listed threatened species, are described in **Attachment 'R.03.00.MNES_01082024', Section 4.3, pp. 40 to 62.**

Birds

Migratory bird species potentially directly or indirectly impacted by the proposed action are:

- Little curlew (*Numenius minutus)*
- Common greenshank (*Tringa nebularia)*
- Little tern (*Sternula albifrons)*
- Greater sand plover (*Charadrius leschenaultii)*
- Great knot (*Calidris tenuirostris)*
- Marsh sandpiper (*Tringa stagnatilis)*
- Bar tailed godwit (*Limosa lapponica)*
- Terek sandpiper (*Xenus cinereus)*
- Oriental plover (*Charadrius veredus)*
- Double-banded plover (*Charadrius bicinctus)*
- Sharp-tailed sandpiper (*Calidris acuminata)*

- Ruddy turnstone (*Arenaria interpres)*
- Whimbrel (*Numenius phaeopus)*
- Swinhoe's snipe *(Gallinago megala)*
- Latham's snipe (*Gallinago hardwickii)*
- Grey-tailed tattler (*Tringa brevipes)*
- Pectoral sandpiper (*Calidris melanotos)*
- Lesser sand plover (*Charadrius mongolus)*
- Curlew sandpiper (*Calidris ferruginea)*
- Black-tailed godwit (*Limosa limosa)*
- Pacific golden plover (*Pluvialis fulva*)
- Red-necked stint (*Calidris ruficollis)*
- Red knot (*Calidris canutus)*
- Ruff (*Philomachus pugnax/Calidris pugnax)*
- Sanderling (*Calidris alba)*
- Broad-billed sandpiper (*Limicola falcinellus)*
- Eastern curlew (*Numenius madagascariensis)*
- Common sandpiper (*Actitis hypoleucos)*
- Wandering tattler (*Tringa incana)*
- Asian dowitcher (*Limnodromus semipalmatus)*
- Pin-tailed snipe (*Gallinago stenura)*
- Grey plover (*Pluvialis squatarola)*
- Wood sandpiper (*Tringa glareola)*
- Osprey (*Pandion haliaetus)*

Bird species are most likley to be potentially impacted by

- disturbance of onshore feeding or roosting areas for shorebirds during placement activities and ongoing use of reclaimed areas.

Mammals

Migratory mammal species identified as potentially directly or indirectly impacted by the proposed action are:

- Australian humpback dolphin (*Sousa sahulensis)*
- Southern right whale (*Eubalaena australis)*
- Australian snubfin dolphin (*Orcaella heinsohni)*
- Sei whale (*Balaenoptera borealis)*
- Bryde's whale (*Balaenoptera edeni)*
- Blue whale (*Balaenoptera musculus)*
- Dugong (*Dugong dugon)*
- Humpback whale (*Megaptera novaeangliae)*
- Killer whale (*Orcinus orca)*

Mammal species are most likley to be potentially impacted by the following impacts:

- water quality impacts as a result of dredge plumes, mobilisation of contaminated sediment, accidental spills of contaminants or the release of fine sediments from dredge tailwater should material placed on land require dewatering;
- underwater noise from dredge vessel activity causing disturbance to marine fauna;
- vessel strike or entrainment of marine fauna;

Reptiles

The reptile species identified as potentially directly or indirectly impacted by the proposed action are:

- Loggerhead turtle (*Caretta caretta)*
- Leatherback turtle (*Dermochelys coriacea)*
- Flatback turtle (*Natator depressus)*
- Green turtle (*Chelonia mydas)*
- Hawksbill turtle (*Eretmochelys imbricata)*
- Olive ridley turtle (*Lepidochelys olivacea)*

Reptile species are most likley to be potentially impacted by the following impacts:

- water quality impacts as a result of dredge plumes, mobilisation of contaminated sediment, accidental spills of contaminants or the release of fine sediments from dredge tailwater should material placed on land require dewatering;
- underwater noise from dredge vessel activity causing disturbance to marine fauna;
- vessel strike of marine fauna;
- direct disturbance of soft bottom benthic habitats or ephemeral seagrass habitats and indirect disturbance of other habitats;
- localised or regional scale changes to waves, currents and sediment transport as a result of a new dredge channel configuration.

Fish and Sharks

No migratory fish species were identified as being directly impacted, however species identified to potentially be indirectly impacted by the proposed action are:

- Porbeagle (*Lamna nasus)*
- White shark (*Carcharodon carcharias)*
- Green sawfish (*Pristis zijsron)*
- Giant manta ray (*Mobula birostris)*
- Reef manta ray (*Mobula alfredi)*
- Oceanic whitetip shark *(Carcharhinus longimanus)*
- Longfin mako (*Isurus paucus)*
- Shortfin mako (*Isurus oxyrinchus)*
- Whale shark *(Rhincodin typus*)

Fish and shark species are most likely to be potentially impacted by the following impacts:

- water quality impacts as a result of dredge plumes, mobilisation of contaminated sediment, accidental spills of contaminants or the release of fine sediments from dredge tailwater should material placed on land require dewatering;
- underwater noise from dredge vessel activity causing disturbance to marine fauna;
- vessel strike of marine fauna;
- localised or regional scale changes to waves, currents and sediment transport as a result of a new dredge channel configuration.

4.1.5.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

Yes

4.1.5.5 Describe why you consider this to be a Significant Impact. *

For an impact to a migratory species to be significant, the criteria within the Matters of National Environmental Significance Significant Impact Guidelines 1.1 must be assessed against.

A potential significant impact has been identified to migratory shorebirds should reclamation occur at Juno Point. These works are likely to displace individuals from foraging habitat at Juno Point. Further studies will be undertaken as part of the EIS to determine bird numbers in the area and design of reclamation (should this occur). Potential offset options are discussed in 4.1.5.11 and in **Attachment 'R.03.00.MNES_01082024', Section 6, pp. 70 to 71.**

For marine species, some indirect impacts may occur, particularly related to sediment plumes or vessel strike, however this is not expected to be a significant impact.

4.1.5.7 Do you think your proposed action is a controlled action? *

Yes

4.1.5.8 Please elaborate why you think your proposed action is a controlled action. *

The volume of dredging to be undertaken is significant, although this will be staged over time. Stringent management measures and monitoring will be required to minimise any impacts to migratory species and further assessment of this impact and ways to reduce it will be required. As a likely significant impact on migratory shorebirds (as well as threatened shorebird species) has been identified, the proposed action is expected to be a controlled action.

4.1.5.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

A range of mitigation and monitoring measures embedded within management plans will need to be developed to support the project in accordance with current best practice approaches to dredging environmental management. In alignment with other major capital dredging projects, plans related to environmental management measures include but are not limited to: Dredge Management Plan, Marine Environmental Management Plan and Vessel Management Plans. Mitigation measures outlined in these plans will include:

- further surveys to map habitat values
- Minimising dredge vessel lighting, noise emissions and other disturbance based on best practice standards
- Stop works procedures applied if interaction between dredge vessel and fauna
- setting water quality objectives and triggers

- Ongoing water quality monitoring during dredging and placement activity
- Dredge head to be fitted with fauna exclusion devices to prevent entrainment of marine fauna

Reclamation activities, should they occur at Juno Point, will also need to be undertaken in such a way that disturbance to bird habitat areas is minimised, however this planning will need to occur once further surveys of the area to verify shorebird populations have occurred. In the first instance, the viability of provision of artificial roosting as part of the reclamation design will need to be considered. **Attachment 'R.03.00.MNES_01082024', Section 5.1 (p. 67), Section 5.3, (pp. 68 to 69) and Section 6 (pp. 70 to 71)** outlines mitigation measures generally for the project and specific measures for threatened and migratory species.

4.1.5.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

A significant impact to migratory bird species has been identified as a potential should reclamation at Juno Point occur. As such, offsets for this disturbance have been considered. An Offset Management Plan will be developed after further surveys of bird presence have occurred and design of the reclamation area finalised.

Some initial direct and indirect offset options with nature positive outcomes have been considered based on recommendations from the Fuller et al report (2021). Further information about these options is provided in **Attachment 'R.03.00.MNES_01082024', Section 6, pp. 70 to 71,** however a summary of potential options for direct offsets is as follows:

- Provision of new feeding areas within the Juno Point reclamation area
- Rehabilitation of Dynah (or Dinah) Island - This was a historical roosting site that is now overgrown with mangroves, making the site unfavourable for many species. Rehabilitation of this site could be undertaken by PBPL to reinstate this as a suitable roosting area, however this would require clearing of mangroves (and therefore additional discussion with the QLD government) and consultation with Traditional Owners in the area due to Dinah Island being a historical burial ground for Aboriginal communities on Turrbal country.
- Manly Harbour - This is a successful artificial roosting site that supports both internationally and nationally important numbers of multiple species, however requires ongoing commitment to maintain its suitability as a roost site. Actions such as managing vegetation growth to keep lines of visibility, managing water levels, and minimising human disturbance.
- Minjerribah artificial roost - There is potential off Minjerribah (North Stradbroke Island) for provision of closer roosting sites through deposition of sand, or rehabilitation and improvement of existing roost areas. If sand deposition occurs, this would require additional consideration of licensing and environmental impacts from any placement to surrounding values such as the Ramsar wetland and Moreton Bay Marine Park, especially impacts on coastal processes.
- Management measures - A number of management measures of existing feeding and roosting sites could also be implemented to improve habitat value. These include physical reprofiling, erosion control, vegetation management, managing water levels and restricting public access.
- Indirect offsets - While a majority of the offset delivery would be made up of direct offsets suggested above, there is the opportunity to provide an indirect offset component also to supplement the remaining offset requirements. A proposed way of delivering this portion might be to make a contribution to ongoing research of shorebird densities and trends within Moreton Bay. The Fuller et al report identifies that there are some knowledge gaps due to lack of contemporary information on bird populations in the area, therefore providing funding to research of this kind may allow more informed future decisions on habitat provision in Moreton Bay.

4.1.6 Nuclear

4.1.6.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.6.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Project is not a nuclear action.

4.1.7 Commonwealth Marine Area

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.7.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.7.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The project area will not see activities undertaken within the Commonwealth Marine Area, with all potential DMPAs being considered located within Queensland waters.

4.1.8 Great Barrier Reef

4.1.8.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.8.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Project is not within the Great Barrier Reef Marine Park.

4.1.9 Water resource in relation to large coal mining development or coal seam gas

4.1.9.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.9.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Project is not a water resource in relation to large coal mining development or coal seam gas.

4.1.10 Commonwealth Land

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.10.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.10.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The project will not impact on values of Commonwealth Land.

4.1.11 Commonwealth Heritage Places Overseas

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.11.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.11.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no Commonwealth Heritage Places Overseas within the project area.

4.1.12 Commonwealth or Commonwealth Agency

4.1.12.1 Is the proposed action to be taken by the Commonwealth or a Commonwealth Agency? *

No

4.2 Impact summary

Conclusion on the likelihood of significant impacts

You have indicated that the proposed action will likely have a significant impact on the following Matters of National Environmental Significance:

- Ramsar Wetland (S16)
- Threatened Species and Ecological Communities (S18)
- Migratory Species (S20)

Conclusion on the likelihood of unlikely significant impacts

You have indicated that the proposed action will unlikely have a significant impact on the following Matters of National Environmental Significance:

- World Heritage (S12)
- National Heritage (S15B)
- Nuclear (S21)
- Commonwealth Marine Area (S23)
- Great Barrier Reef (S24B)
- Water resource in relation to large coal mining development or coal seam gas (S24D)
- Commonwealth Land (S26)
- Commonwealth Heritage Places Overseas (S27B)
- Commonwealth or Commonwealth Agency (S28)

4.3 Alternatives

4.3.1 Do you have any possible alternatives for your proposed action to be considered as part of your referral? *

Yes

4.3.2 Do you have an alternative timeline you are proposing for your proposed action? *

Yes

4.3.4 Do you have an alternative location you are proposing for your proposed action? *

No

4.3.5 Briefly describe why an alternative location for your proposed action was not possible. *

PBPL has undertaken significant investigative work to understand the key drivers, needs and potential design of an optimised channel. A Land Development Strategy in 2017 highlighted demand and supply estimates of the port land over a 30 year horizon and beyond. This report identified the need for channel dredging to maintain future access. The need for capital dredging of the channel to accommodate larger ships was investigated further in 2019 with considerations such as environmental concerns, regulations and capital expenditure explored. It was concluded that the Project is inevitable for the future viability of the port and its contribution to the Queensland economy.

PBPL consults closely with the Regional Harbour Master, who has been regularly involved in this Project's conception and planning.

Whilst a number of options and alternatives have been analysed in order to optimise channel design, the current proposed configuration optimises safety considerations and vessel access.

4.3.6 Do you have alternative activities you are proposing for your proposed action? *

No

4.3.7 Briefly describe why an alternative activity for your proposed action was not possible. *

If no capital dredging occurred, this is expected to result in increasing ship delays as transit windows come under more demand. If Sydney and Melbourne Ports undergo expansion, there is a long-term risk that the Port is downgraded to a feeder port. This potentially becomes a limiting factor for trade, leading to loss of economic development and jobs growth. It limits the potential for growth and expansion of future trade, and the potential to garner increased safety and sustainability benefits would also be impacted.

4.3.1 Alternatives: Timeline

4.3.1.1 Estimated start date for proposed alternative

01/01/2027

4.3.1.1 Estimated end date for proposed alternative

01/01/2030

4.3.1.2 Describe how the impacts and mitigation measures are different for your alternative timeline.

In order to minimise operational disruption and assist in the handling of forecast dredge material volumes, the project will need to be appropriately staged. Generally, the volume of material means that undertaking works in a single dredge campaign would be challenging to handle, stockpile or dispose of quickly. It is preferable to stage works incrementally, as smaller volumes are more easily managed. Undertaking works as a ‘one-off’ campaign also does not allow for flexibility over time should there be a change in safety requirements or vessels using the port.

Undertaking works in a quicker timeframe would require multiple dredge vessels and disposal of a large volume of material at one time. This may have a significant impact on water quality, as a greater amount of material will be disturbed at any one time.

4.3.4 Alternatives: Impact and mitigation

4.3.4.1 Do these alternatives have a different impact, avoidance, or mitigation measure compared to what you have already provided? *

No

4.3.5 Alternatives: Considered alternatives

4.3.5.1 Do you have any other alternative actions, including not taking the action, that you have considered but are not proposing as part of this referral? *

No

5. Lodgement

5.1 Attachments

1.2.1 Overview of the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	R.03.00.MNES_01082024.pdf MNES Report, provides project description, identifies relevant MNES and discusses impacts/mitigation	01/08/2024	No	High

1.2.7 Public consultation regarding the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	R.03.00.MNES_01082024.pdf MNES Report, provides project description, identifies	31/07/2024	No	High

relevant MNES and discusses impacts/mitigation

1.3.2.18 (Person proposing to take the action) If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Environment Policy.pdf PBPL Environment Policy	17/11/2023	No	High

2.2.5 Tenure of the action area relevant to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	R.03.00.MNES_01082024.pdf MNES Report, provides project description, identifies relevant MNES and discusses impacts/mitigation	31/07/2024	No	High

3.1.1 Current condition of the project area's environment

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	R.03.00.MNES_01082024.pdf MNES Report, provides project description, identifies relevant MNES and discusses impacts/mitigation	31/07/2024	No	High
#2.	Link	(Healthy Land and Water, 2022) REPORT CARD At a Glance 2022 https://reportcard.hlw.org.au/public/assets/pdfs..			High
#3.	Link	(Seamap Australia, 2024) Seamap Australia National Benthic Habitat Layer (NBHL) https://metadata.imas.utas.edu.au/geonetwork/srv..			High

3.1.2 Existing or proposed uses for the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	R.03.00.MNES_01082024.pdf MNES Report, provides project description, identifies relevant MNES and discusses impacts/mitigation	31/07/2024	No	High
#2.	Link	(Fesl & Davies, 2004) Moreton Bay Sand Extraction Environmental Study: Indigenous Traditional Owner https://qldgov.softlinkhosting.com.au/liberty/op..			High
#3.	Link	(PPK, 1998) Moreton Bay Marine Park extractive industry strategy sand resource study https://qldgov.softlinkhosting.com.au/liberty/op..			Medium

#4.	Link	(Queensland Government, 2005) Moreton Bay Sand Extraction Study – Summary of Findings https://qldgov.softlinkhosting.com.au/liberty/li..	High
#5.	Link	(Thurstan et al, 2019) Fishers and fisheries of Moreton Bay https://moretonbayfoundation.org/articles/fishin..	High

3.1.3 Natural features, important or unique values that applies to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	R.03.00.MNES_01082024.pdf MNES Report, provides project description, identifies relevant MNES and discusses impacts/mitigation	31/07/2024	No	High

3.2.1 Flora and fauna within the affected area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	R.03.00.MNES_01082024.pdf MNES Report, provides project description, identifies relevant MNES and discusses impacts/mitigation	31/07/2024	No	High
#2.	Link	(DCCEEW, 2023) Protected Matters Search Tool https://pmst.awe.gov.au/#/map?lng=153.3849334716..			High

3.2.2 Vegetation within the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	R.03.00.MNES_01082024.pdf MNES Report, provides project description, identifies relevant MNES and discusses impacts/mitigation	31/07/2024	No	High
#2.	Link	(Queensland Government, 2024) Request a vegetation map or property report. https://www.resources.qld.gov.au/qld/environment..			High

3.3.2 Indigenous heritage values that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Link	(Fesl & Davies, 2004) Moreton Bay Sand Extraction Environmental Study: Indigenous Traditional Owner https://qldgov.softlinkhosting.com.au/liberty/op..			High

#2.	Link	(PPK, 1998) Moreton Bay Marine Park extractive industry strategy sand resource study https://qldgov.softlinkhosting.com.au/liberty/op..	Medium
#3.	Link	(Queensland Government, 2005) Moreton Bay Sand Extraction Study – Summary of Findings https://qldgov.softlinkhosting.com.au/liberty/li..	High

3.4.1 Hydrology characteristics that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	R.03.00.MNES_01082024.pdf MNES Report, provides project description, identifies relevant MNES and discusses impacts/mitigation	31/07/2024	No	High
#2.	Link	(Dennison & Abal, 1999) Moreton Bay Study: A Scientific Basis for the Healthy Waterways Campaign https://ian.umces.edu/site/assets/files/11054/mo..			High

4.1.4.2 (Threatened Species and Ecological Communities) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	R.03.00.MNES_01082024.pdf MNES Report, provides project description, identifies relevant MNES and discusses impacts/mitigation	31/07/2024	No	High

4.1.4.5 (Threatened Species and Ecological Communities) Why you consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	R.03.00.MNES_01082024.pdf MNES Report, provides project description, identifies relevant MNES and discusses impacts/mitigation	31/07/2024	No	High

4.1.4.10 (Threatened Species and Ecological Communities) Avoidance or mitigation measures proposed for this action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	R.03.00.MNES_01082024.pdf MNES Report, provides project description, identifies relevant MNES and discusses impacts/mitigation	31/07/2024	No	High

4.1.4.11 (Threatened Species and Ecological Communities) Proposed offsets relevant to avoidance or mitigation measures

	Type	Name	Date	Sensitivity	Confidence

#1.	Document	R.03.00.MNES_01082024.pdf MNES Report, provides project description, identifies relevant MNES and discusses impacts/mitigation	31/07/2024	No	High
#2.	Link	(Fuller et al, 2021) Managing Threats to Migratory Shorebirds in Moreton Bay https://www.hlw.org.au/resources/downloads/biodi..			High

4.1.5.2 (Migratory Species) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitive	Confidence
#1.	Document	R.03.00.MNES_01082024.pdf MNES Report, provides project description, identifies relevant MNES and discusses impacts/mitigation	31/07/2024	No	High

4.1.5.5 (Migratory Species) Why you consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitive	Confidence
#1.	Document	R.03.00.MNES_01082024.pdf MNES Report, provides project description, identifies relevant MNES and discusses impacts/mitigation	31/07/2024	No	High

4.1.5.10 (Migratory Species) Avoidance or mitigation measures proposed for this action

	Type	Name	Date	Sensitive	Confidence
#1.	Document	R.03.00.MNES_01082024.pdf MNES Report, provides project description, identifies relevant MNES and discusses impacts/mitigation	31/07/2024	No	High

4.1.5.11 (Migratory Species) Proposed offsets relevant to avoidance or mitigation measures

	Type	Name	Date	Sensitive	Confidence
#1.	Document	R.03.00.MNES_01082024.pdf MNES Report, provides project description, identifies relevant MNES and discusses impacts/mitigation	31/07/2024	No	High
#2.	Link	(Fuller et al, 2021) Managing Threats to Migratory Shorebirds in Moreton Bay https://www.hlw.org.au/resources/downloads/biodi..			High

5.2 Declarations

Completed Referring party's declaration

The Referring party is the person preparing the information in this referral.

ABN/ACN	54010830421
Organisation name	BMT COMMERCIAL AUSTRALIA PTY LTD
Organisation address	4000 QLD
Representative's name	Lisa McKinnon
Representative's job title	Senior Principal
Phone	(07) 3831 6744
Email	lisa.mckinnon@apac.bmt.org
Address	PO Box 203 Spring Hill Queensland 4004

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ By checking this box, I, **Lisa McKinnon of BMT COMMERCIAL AUSTRALIA PTY LTD**, declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

✔ Completed Person proposing to take the action's declaration

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	78143384749
Organisation name	PORT OF BRISBANE PTY LTD
Organisation address	3 Port Central Avenue, Port Brisbane QLD 4178
Representative's name	Tim Cope
Representative's job title	Senior Manager Business Development, Port of Brisbane
Phone	+61732584888

Email	channeldevelopment@portbris.com.au
Address	3 Port Central Avenue, Port Brisbane QLD 4178

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **Tim Cope of PORT OF BRISBANE PTY LTD**, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

✔ Completed Proposed designated proponent's declaration

The Proposed designated proponent is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **Tim Cope of PORT OF BRISBANE PTY LTD**, the Proposed designated proponent, consent to the designation of myself as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. *

☐ I would like to receive notifications and track the referral progress through the EPBC portal. *