Australian Government
Department of the Environment

Referral of proposed action

What is a referral?

The *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) provides for the protection of the environment, especially matters of national environmental significance (NES). Under the EPBC Act, a person must not take an action that has, will have, or is likely to have a significant impact on any of the matters of NES without approval from the Australian Government Environment Minister or the Minister's delegate. (Further references to 'the Minister' in this form include references to the Minister's delegate.) To obtain approval from the Environment Minister, a proposed action should be referred. The purpose of a referral is to obtain a decision on whether your proposed action will need formal assessment and approval under the EPBC Act.

Your referral will be the principal basis for the Minister's decision as to whether approval is necessary and, if so, the type of assessment that will be undertaken. These decisions are made within 20 business days, provided sufficient information is provided in the referral.

Who can make a referral?

Referrals may be made by or on behalf of a person proposing to take an action, the Commonwealth or a Commonwealth agency, a state or territory government, or agency, provided that the relevant government or agency has administrative responsibilities relating to the action.

When do I need to make a referral?

A referral must be made for actions that are likely to have a significant impact on the following matters protected by Part 3 of the EPBC Act:

- World Heritage properties (sections 12 and 15A)
- National Heritage places (sections 15B and 15C)
- Wetlands of international importance (sections 16 and 17B)
- Listed threatened species and communities (sections 18 and 18A)
- Listed migratory species (sections 20 and 20A)
- Protection of the environment from nuclear actions (sections 21 and 22A)
- Commonwealth marine environment (sections 23 and 24A)
- Great Barrier Reef Marine Park (sections 24B and 24C)
- A water resource, in relation to coal seam gas development and large coal mining development (sections 24D and 24E)
- The environment, if the action involves Commonwealth land (sections 26 and 27A), including:
    - actions that are likely to have a significant impact on the environment of Commonwealth land (even if taken outside Commonwealth land);
    - actions taken on Commonwealth land that may have a significant impact on the environment generally;
- The environment, if the action is taken by the Commonwealth (section 28)
- Commonwealth Heritage places outside the Australian jurisdiction (sections 27B and 27C)

You may still make a referral if you believe your action is not going to have a significant impact, or if you are unsure. This will provide a greater level of certainty that Commonwealth assessment requirements have been met.

To help you decide whether or not your proposed action requires approval (and therefore, if you should make a referral), the following guidance is available from the Department's website:

- the Policy Statement titled Significant Impact Guidelines 1.1 – Matters of National Environmental Significance. Additional sectoral guidelines are also available.

- the Policy Statement titled Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies.
- the Policy Statement titled Significant Impact Guidelines: Coal seam gas and large coal mining developments—Impacts on water resources.
- the interactive map tool (enter a location to obtain a report on what matters of NES may occur in that location).

Can I refer part of a larger action?

In certain circumstances, **the Minister may not accept a referral for an action that is a component of a larger action and may request the person proposing to take the action to refer the larger action for consideration under the EPBC Act (Section 74A, EPBC Act).** If you wish to make a referral for a staged or component referral, read 'Fact Sheet 6 Staged Developments/Split Referrals' and contact the Referrals Gateway (1800 803 772).

Do I need a permit?

Some activities may also require a permit under other sections of the EPBC Act or another law of the Commonwealth. Information is available on the Department's web site.

Is your action in the Great Barrier Reef Marine Park?

If your action is in the Great Barrier Reef Marine Park it may require permission under the *Great Barrier Reef Marine Park Act 1975* (GBRMP Act). If a permission is required, referral of the action under the EPBC Act is deemed to be an application under the GBRMP Act (see section 37AB, GBRMP Act). This referral will be forwarded to the Great Barrier Reef Marine Park Authority (the Authority) for the Authority to commence its permit processes as required under the Great Barrier Reef Marine Park Regulations 1983. If a permission is not required under the GBRMP Act, no approval under the EPBC Act is required (see section 43, EPBC Act). The Authority can provide advice on relevant permission requirements applying to activities in the Marine Park.

The Authority is responsible for assessing applications for permissions under the GBRMP Act, GBRMP Regulations and Zoning Plan. Where assessment and approval is also required under the EPBC Act, a single integrated assessment for the purposes of both Acts will apply in most cases. Further information on environmental approval requirements applying to actions in the Great Barrier Reef Marine Park is available from http://www.gbrmpa.gov.au/ or by contacting GBRMPA's Environmental Assessment and Management Section on (07) 4750 0700.

The Authority may require a permit application assessment fee to be paid in relation to the assessment of applications for permissions required under the GBRMP Act, even if the permission is made as a referral under the EPBC Act. Further information on this is available from the Authority:

Great Barrier Reef Marine Park Authority

2-68 Flinders Street PO Box 1379
Townsville QLD 4810
AUSTRALIA

Phone: + 61 7 4750 0700
Fax: + 61 7 4772 6093

www.gbrmpa.gov.au

What information do I need to provide?

Completing all parts of this form will ensure that you submit the required information and will also assist the Department to process your referral efficiently. If a section of the referral document is not applicable to your proposal enter N/A.

You can complete your referral by entering your information into this Word file.

Instructions

Instructions are provided in blue text throughout the form.

Attachments/supporting information

The referral form should contain sufficient information to provide an adequate basis for a decision on the likely impacts of the proposed action. You should also provide supporting documentation, such as environmental reports or surveys, as attachments.

Coloured maps, figures or photographs to help explain the project and its location should also be submitted with your referral. Aerial photographs, in particular, can provide a useful perspective and context. Figures should be good quality as they may be scanned and viewed electronically as black and white documents. Maps should be of a scale that clearly shows the location of the proposed action and any environmental aspects of interest.

Please ensure any attachments are below three megabytes (3mb) as they will be published on the Department's website for public comment. To minimise file size, enclose maps and figures as separate files if necessary. If unsure, contact the Referrals Gateway (email address below) for advice. Attachments larger than three megabytes (3mb) may delay processing of your referral.

Note: the Minister may decide not to publish information that the Minister is satisfied is commercial-in-confidence.

How do I pay for my referral?

From 1 October 2014 the Australian Government commenced cost recovery arrangements for environmental assessments and some strategic assessments under the EPBC Act. If an action is referred on or after 1 October 2014, then cost recovery will apply to both the referral and any assessment activities undertaken. Further information regarding cost recovery can be found on the Department's website at: http://www.environment.gov.au/epbc/publications/cost-recovery-cris

Payment of the referral fee can be made using one of the following methods:

- **EFT Payments can be made to:**

  BSB: 092-009
  Bank Account No. 115859
  Amount: $7352
  Account Name: Department of the Environment.
  Bank: Reserve Bank of Australia
  Bank Address: 20-22 London Circuit Canberra ACT 2601
  Description: The reference number provided (see note below)

- **Cheque** - Payable to "Department of the Environment". Include the reference number provided (see note below), and if posted, address:

  The Referrals Gateway
  Environment Assessment Branch
  Department of the Environment
  GPO Box 787
  Canberra ACT 2601

- **Credit Card**

  Please contact the Collector of Public Money (CPM) directly (call (02) 6274 2930 or 6274 20260 and provide the reference number (see note below).

Note: in order to receive a reference number, submit your referral and the Referrals Gateway will email you the reference number.

How do I submit a referral?

Referrals may be submitted by mail or email.

Mail to:

Referrals Gateway
Environment Assessment Branch
Department of Environment
GPO Box 787
CANBERRA ACT 2601

- If submitting via mail, electronic copies of documentation (on CD/DVD or by email) are required.

Email to: epbc.referrals@environment.gov.au

- Clearly mark the email as a 'Referral under the EPBC Act'.
- Attach the referral as a Microsoft Word file and, if possible, a PDF file.
- **Follow up with a mailed hardcopy including copies of any attachments or supporting reports.**

What happens next?

Following receipt of a valid referral (containing all required information) you will be advised of the next steps in the process, and the referral and attachments will be published on the Department's web site for public comment.

The Department will write to you within 20 business days to advise you of the outcome of your referral and whether or not formal assessment and approval under the EPBC Act is required. There are a number of possible decisions regarding your referral:

The proposed action is NOT LIKELY to have a significant impact and does NOT NEED approval

No further consideration is required under the environmental assessment provisions of the EPBC Act and the action can proceed (subject to any other Commonwealth, state or local government requirements).

The proposed action is NOT LIKELY to have a significant impact IF undertaken in a particular manner

The action can proceed if undertaken in a particular manner (subject to any other Commonwealth, state or local government requirements). The particular manner in which you must carry out the action will be identified as part of the final decision. You must report your compliance with the particular manner to the Department.

The proposed action is LIKELY to have a significant impact and does NEED approval

If the action is likely to have a significant impact a decision will be made that it is a *controlled action*. The particular matters upon which the action may have a significant impact (such as World Heritage values or threatened species) are known as the *controlling provisions*.

The controlled action is subject to a public assessment process before a final decision can be made about whether to approve it. The assessment approach will usually be decided at the same time as the controlled action decision. (Further information about the levels of assessment and basis for deciding the approach are available on the Department's web site.)

The proposed action would have UNACCEPTABLE impacts and CANNOT proceed

The Minister may decide, on the basis of the information in the referral, that a referred action would have clearly unacceptable impacts on a protected matter and cannot proceed.

Compliance audits

If a decision is made to approve a project, the Department may audit it at any time to ensure that it is completed in accordance with the approval decision or the information provided in the referral. If the project changes, such that the likelihood of significant impacts could vary, you should write to the Department to advise of the changes. If your project is in the Great Barrier Reef Marine Park and a decision is made to approve it, the Authority may also audit it. (See "*Is your action in the Great Barrier Reef Marine Park,"* p.2, for more details).

For more information

- call the Department of the Environment Community Information Unit on 1800 803 772 or
- visit the web site http://www.environment.gov.au/epbc

All the information you need to make a referral, including documents referenced in this form, can be accessed from the above web site.

Referral of proposed action

Project title:	Abbot Point Marine Offloading Facility Beach Nourishment and Maintenance Dredging

1 Summary of proposed action

NOTE: You must also attach a map/plan(s) and associated geographic information system (GIS) vector (shapefile) dataset showing the location and approximate boundaries of the area in which the project is to occur. Maps in A4 size are preferred. You must also attach a map(s)/plan(s) showing the location and boundaries of the project area in respect to any features identified in 3.1 & 3.2, as well as the extent of any freehold, leasehold or other tenure identified in 3.3(i).

1.1 **Short description**

Use 2 or 3 sentences to uniquely identify the proposed action and its location.

The Abbot Point Marine Offloading Facility (MOF) is an existing facility located at the Port of Abbot Point, near Bowen in Queensland. The facility was originally approved and constructed in 1982 to provide access for outloading of bulk materials and break bulk cargo necessary for the construction of the Abbot Point Coal Terminal and has been utilised since that time for port operations including launching and mooring of emergency responses vessels, and for bulk materials delivery and outloading as required during various upgrades to the port facilities. Maintenance dredging is required to restore the original seabed depths and it is proposed to utilise the material for beach nourishment. The maintenance works are to allow the facility to be used for current port operations including, improving the safety, emergency response and efficiency of a number of operational activities.

1.2 **Latitude and longitude**

Latitude and longitude details are used to accurately map the boundary of the proposed action. If these coordinates are inaccurate or insufficient it may delay the processing of your referral.

	Latitude			Longitude		
location point	degrees	minutes	seconds	degrees	minutes	seconds
1	19	52	58.743S	148	4	53.3515E

The Interactive Mapping Tool may provide assistance in determining the coordinates for your project area.

If the area is less than 5 hectares, provide the location as a single pair of latitude and longitude references. If the area is greater than 5 hectares, provide bounding location points.

There should be no more than 50 sets of bounding location coordinate points per proposal area.

Bounding location coordinate points should be provided sequentially in either a clockwise or anticlockwise direction.

If the proposed action is linear (eg. a road or pipeline), provide coordinates for each turning point.

Also attach the associated GIS-compliant file that delineates the proposed referral area. If the area is less than 5 hectares, please provide the location as a point layer. If greater than 5 hectares, please provide a polygon layer. If the proposed action is linear (eg. a road or pipeline) please provide a polyline layer (refer to GIS data supply guidelines at Attachment A).

Do not use AMG coordinates.

1.3 **Locality and property description**

Provide a brief physical description of the property on which the proposed action will take place and the project location (eg. proximity to major towns, or for off-shore projects, shortest distance to mainland).

The proposed action is located at the Port of Abbot Point, approximately 25 kilometres (km) north of Bowen in Central Queensland. The existing Abbot Point MOF is located at the northern part of the Port immediately east of the Abbot Point headland. The proposed action will occur within the bounds of the existing MOF and in the intertidal zone immediately north of the existing facility.

See Figure 1 for details (in attachment 1).

1.4	**Size of the development footprint or work area (hectares)**	Beach nourishment area: 0.85 ha Maintenance dredge area: 0.92 ha
1.5	**Street address of the site**	Abbot Point Road, Abbot Point, Queensland

1.6 **Lot description**

Describe the lot numbers and title description, if known.

Lot 103 on SP271829 Leasehold over water held by NQBP (beach nourishment and maintenance dredging area)

Lot 52 on HR1732 Leasehold covering land and water held by NQBP (maintenance dredging area)

1.7 **Local Government Area and Council contact (if known)**

If the project is subject to local government planning approval, provide the name of the relevant council contact officer.

The proposed action is within Whitsunday Regional Council and adjacent State waters. The proposed action is within Port of Abbot Point Strategic Port Area and is also within the Abbot Point State Development Area, development within these areas is not subject to local government planning requirements.

1.8 **Time frame**

Specify the time frame in which the action will be taken including the estimated start date of construction/operation.

The works are proposed to be conducted in either the 2016 dredging (between April and October) window or 2017 dredging window. Maintenance dredging and relocation of the material to the beach nourishment area will be for a period of approximately 1 month.

1.9	**Alternatives to proposed action** Were any feasible alternatives to taking the proposed action (including not taking the action) considered but are not proposed?		No
		X	Yes, you must also complete section 2.2
1.10	**Alternative time frames etc** Does the proposed action include alternative time frames, locations or activities?	X	No
			Yes, you must also complete Section 2.3. For each alternative, location, time frame, or activity identified, you must also complete details in Sections 1.2-1.9, 2.4-2.7 and 3.3 (where relevant).

1.11	**State assessment** Is the action subject to a state or territory environmental impact assessment?	X 	No Yes, you must also complete Section 2.5
1.12	**Component of larger action** Is the proposed action a component of a larger action?	 X	No Yes, you must also complete Section 2.7
1.13	**Related actions/proposals** Is the proposed action related to other actions or proposals in the region (if known)?	X 	No Yes, provide details:
1.14	**Australian Government funding** Has the person proposing to take the action received any Australian Government grant funding to undertake this project?	X 	No Yes, provide details:
1.15	**Great Barrier Reef Marine Park** Is the proposed action inside the Great Barrier Reef Marine Park?	X 	No Yes, you must also complete Section 3.1 (h), 3.2 (e)

2 Detailed description of proposed action

NOTE: It is important that the description is complete and includes all components and activities associated with the action. If certain related components are not intended to be included within the scope of the referral, this should be clearly explained in section 2.7.

2.1 Description of proposed action

This should be a detailed description outlining all activities and aspects of the proposed action and should reference figures and/or attachments, as appropriate.

The Abbot Point Marine Offloading Facility (MOF) is an existing facility located at the Port of Abbot Point, near Bowen in Queensland. The facility was originally approved and constructed in 1982 to provide access for outloading of bulk materials and break bulk cargo necessary for the construction of the Abbot Point Coal Terminal and has been utilised since that time for port operations including launching and mooring of emergency responses vessels, and for bulk materials delivery and outloading as required during various upgrades to the port facilities.

Maintenance dredging of between 10,000 m^3 and 30,000 m^3 of material is required to restore the original seabed depths within the MOF and it is proposed to utilise the material for beach nourishment.

The following provides a brief history of development of the Abbot Point MOF.

- The MOF was originally developed in 1982 to support the construction of the Abbot Point Coal Terminal (APCT). This work was undertaken in accordance with a Section 86 permit, under the repealed Harbours Act (Qld), issued on 18 March 1982 with amendments to the structure subsequently approved in 9 May 1985 for development of the existing rock breakwater. The original development of the MOF occurred prior to the commencement of the EPBC Act, and as such the existing breakwater and causeway is considered to be an action with prior authorisation in accordance with s 43A of the EPBC Act.
- Redevelopment of the MOF was proposed in 2005 to support development of the Stage 3 Expansion of the APCT. The redevelopment was included as part of the overall Stage 3 Expansion Project Referral (EPBC 2005/2154), which was determined to be a not controlled action, however this referral did not envisage the requirement for maintenance dredging.
- Prior to the Stage 3 Expansion it was identified that maintenance dredging was required to returning the seabed area to its natural depths of the 1980's – the 1982 hydrographic survey level was used as the criteria for its dredging. An internal assessment of the potential to trigger the EPBC Act and consultation with the Great Barrier Reef Marine Park Authority was undertaken prior to seeking development permits for maintenance dredging and this concluded that a significant impact to a matter of NES was unlikely.
- Development permits for the redevelopment of the MOF were sought in accordance with Qld state approval requirements and issued on 11 August 2008, for operational works (tidal works) for the carrying out of maintenance dredging activities and redevelopment of the MOF being the replacement of the existing sheet pile wall.
- Maintenance works were again undertaken in 2012 in accordance with a development permit for maintenance dredging, within the previously approved footprint and relocation of dredged material within tidal waters issued on 22 December 2010.

The facility has been in constant use since its original construction in 1982. This includes:

- Regular use for the launching of Port safety vessels to conduct drills and respond to potential hazards.
- Intermittent use for the transfer of bulk cargo and break bulk materials as part of the original construction of the Abbot Point Coal Terminal; replacement of equipment and expansions for the APCT operations.
- Regular use for the launch of research and survey vessels associated with ongoing monitoring and assessment studies undertaken at the Port.

Maintenance dredging and relocation of dredged material from the MOF is currently undertaken in accordance with Qld state development permits first issued in 2008. The current permits provide for

relocation of material to an offshore dispersal area immediately north of the MOF. It is proposed to now utilise this material for beach nourishment along the foreshore of the Abbot Point headland between HAT and lowest astronomical tide (LAT), replenishing material currently lost through the dominant northerly current around the headland. Beach nourishment will be undertaken on the same parcel of land as the current offshore permit applies to.

It is expected that maintenance dredging will be undertaken over a period of approximately 3-4 weeks and between 10,000 m^3 and 30,000 m^3 of material will be transported from the MOF to the beach nourishment area either by trucks, direct pumping or barge and spread across the nourishment area as part of each maintenance dredge event undertaken at the MOF. Maintenance dredging is required to remove material which accumulates within the MOF and reinstate the original depth of the MOF at the time of construction, being approximately -3.0 m LAT. Maintenance dredging will likely be undertaken utilising a cutter suction dredger or a backhoe dredger, which comprises an excavator mounted on a floating barge. Some dredging will also occur using an excavator either on the beach or from existing wharf.

The maintenance dredging occurs on an as required basis and has only occurred twice since the original development of the MOF in 1982. This level of frequency is expected to continue based on the current utilisation requirements of the facility. The maximum volume of material to be relocated within a one year period is 30,000 m^3.

2.2 Alternatives to taking the proposed action

This should be a detailed description outlining any feasible alternatives to taking the proposed action (including not taking the action) that were considered but are not proposed (note, this is distinct from any proposed alternatives relating to location, time frames, or activities – see section 2.3).

The proposed action involves necessary maintenance works for an existing facility to ensure its longevity and improve the safety and environmental performance of the facility. Maintenance dredging is required to reinstate seabed levels which were present at the time of the original construction.

Beach nourishment is being proposed as an alternate to the existing practice of disposal of dredged material at the approved offshore disposal area north of the MOF. Having the beach nourishment area as an alternate to offshore disposal is considered to represent an improved environment environmental outcome.

The only alternative to the proposed action would be to construct a new facility at an alternate location not requiring maintenance dredging, which is not considered to represent a feasible alternative.

2.3 Alternative locations, time frames or activities that form part of the referred action

If you have identified that the proposed action includes alternative time frames, locations or activities (in section 1.10) you must complete this section. Describe any alternatives related to the physical location of the action, time frames within which the action is to be taken and alternative methods or activities for undertaking the action. For each alternative location, time frame or activity identified, you must also complete (where relevant) the details in sections 1.2-1.9, 2.4-2.7, 3.3 and 4. Please note, if the action that you propose to take is determined to be a controlled action, any alternative locations, time frames or activities that are identified here may be subject to environmental assessment and a decision on whether to approve the alternative.

Not applicable.

2.4 Context, planning framework and state/local government requirements

Explain the context in which the action is proposed, including any relevant planning framework at the state and/or local government level (e.g. within scope of a management plan, planning initiative or policy framework). Describe any Commonwealth or state legislation or policies under which approvals are required or will be considered against.

The proposed action relates to maintenance works at the existing Abbot Point MOF. The MOF is currently subject to the following approval permits and their associated conditions (see Attachment 2):

- Section 86 permit under the repealed Harbours Act for development of the existing rock breakwater and sheet pile wall issued on 18 March 1982.
- Section 86 permit amendment to reflect alterations in the rock breakwater structure issued 9 May 1985.
- Development permit for operational works (tidal works) for the carrying out of dredging, disposal of dredged material activities and replacement of sheet pile wall at the MOF issued on 11 August 2008 (permit number PM/08/0041 AP).
- Development permit for a material change of use for ERA 16 Dredging activities for maintenance dredging and disposal of dredge material within tidal waters issued on 22 December 2010 (permit number (SPDE01288310).
- Request to change a development approval for an amendment to an approval condition for the approved Environmental Authority for ERA 16 issued on 5 November 2012 (permit number (SPDE01288310).

The Abbot Point MOF is located within the Port Limits of the Port of Abbot Point and within the Abbot Point State Development Area (APSDA). Activities undertaken within the Port of Abbot Point are the subject to the provisions of the Port of Abbot Point Land Use Plan and Port of Abbot Point Environmental Management Plan. The proposed action is consistent with the objectives of the Land Use Plan and will be undertaken in accordance with the requirements of the Environmental Management Plan.

Activities undertaken within the APSDA are subject to the APSDA Development Scheme (Department of State Development 2014). The proposed development is consistent with the planning objectives of the Development Scheme and the Port Facilities Precinct in which it occurs.

Development undertaken within the State of Queensland is also subject to the *Sustainable Planning Act 2010*.

State development permits required for the proposed action include:

- Change to approval conditions to amend the existing Environmental Authority (permit number SPDE01288310) for the relocation of dredged material to the proposed beach nourishment area.

Disposal of material at sea is subject to the *Environment Protection (Sea Dumping) Act* 1981 (Cth). The Act applies to disposal of materials within all Australian waters, generally defined as being waters below lowest astronomical tide and extending seaward to the outer edge of the Australian exclusive economic zone. The proposed beach nourishment area is located above lowest astronomical tide and therefore not within Australian waters. As such it is considered that the proposed beach nourishment does not constitute disposal of material at sea and a sea dumping permit is not required.

2.5 Environmental impact assessments under Commonwealth, state or territory legislation

If you have identified that the proposed action will be or has been subject to a state or territory environmental impact statement (in section 1.11) you must complete this section. Describe any environmental assessment of the relevant impacts of the project that has been, is being, or will be carried out under state or territory legislation. Specify the type and nature of the assessment, the relevant legislation and the current status of any assessments or approvals. Where possible, provide contact details for the state/territory assessment contact officer.

Describe or summarise any public consultation undertaken, or to be undertaken, during the assessment. Attach copies of relevant assessment documentation and outcomes of public consultations (if available).

Not applicable.

2.6 Public consultation (including with Indigenous stakeholders)

Your referral must include a description of any public consultation that has been, or is being, undertaken. Where Indigenous stakeholders are likely to be affected by your proposed action, your referral should describe any consultations

undertaken with Indigenous stakeholders. Identify the relevant stakeholders and the status of consultations at the time of the referral. Where appropriate include copies of documents recording the outcomes of any consultations.

Consultation regarding the proposed action has been undertaken with officers of the Queensland Department of Environment and Heritage Protection, the Department of Natural Resources and Management and the Department of State Development. Consultation has confirmed the above approval requirements and has provided feedback on considerations to be incorporated into operational documents such as the Dredge Management Plan.

Consultation has been commenced with Indigenous parties in regards to the proposed action. It is intended that further consultation will be undertaken with a survey of the area proposed for beach nourishment to occur prior to development commencing. NQBP has an Indigenous Land Use Agreement and Cultural Heritage Management Plan in place for the port and the proposed action will be undertaken in accordance with these agreements.

2.7 A staged development or component of a larger project

If you have identified that the proposed action is a component of a larger action (in section 1.12) you must complete this section. Provide information about the larger action and details of any interdependency between the stages/components and the larger action. You may also provide justification as to why you believe it is reasonable for the referred action to be considered separately from the larger proposal (eg. the referred action is 'stand-alone' and viable in its own right, there are separate responsibilities for component actions or approvals have been split in a similar way at the state or local government levels).

NQBP is currently proposing to undertake two separate actions relevant to the Abbot Point MOF:

- Beach Nourishment and Maintenance Dredging, subject of this referral; and.
- Maintenance and renewal Works, subject of a separate referral.

The reasoning for submitting the two actions as separate referrals is based on the fact that the actions are separable, as well as timing restrictions associated with the conduct of the separate works.

The two actions are independent of each other, in so far as whilst both actions are necessary to ensure the ongoing safe and efficient operation of the Abbot Point MOF, each action could be undertaken separably and independently of the other.

The proposed Beach Nourishment and Maintenance Dredging is proposed to be undertaken in 2016 or 2017. The timing of these works is constrained due to the available dredging window between April and October each year.

The proposed Maintenance and Renewal works are required to be undertaken as soon as practicable. The existing facility requires maintenance to existing infrastructure to ensure it is able to function as a safe and efficient material offloading facility for upcoming works at the Port of Abbot Point which include the import of a replacement stacker reclaimer for the existing coal terminal (APCT-T1). These works are required to be commenced in June 2016 in order to meet the time frame of the delivery.

The two actions have been referred concurrently to ensure that the DoE is fully cognisant of both projects and their relationship and thus in no way limiting the ability to assess each action on its merits. The actions are very different in terms of the nature of the proposed activities and the two actions are not considered to result in cumulative impacts to matters of national environmental significance.

3 Description of environment & likely impacts

3.1 Matters of national environmental significance

Describe the affected area and the likely impacts of the proposal, emphasising the relevant matters protected by the EPBC Act. Refer to relevant maps as appropriate. The interactive map tool can help determine whether matters of national environmental significance or other matters protected by the EPBC Act are likely to occur in your area of interest.

Your assessment of likely impacts should refer to the following resources (available from the Department's web site):

- specific values of individual World Heritage properties and National Heritage places and the ecological character of Ramsar wetlands;
- profiles of relevant species/communities (where available), that will assist in the identification of whether there is likely to be a significant impact on them if the proposal proceeds;
- *Significant Impact Guidelines 1.1 – Matters of National Environmental Significance*; and
- associated sectoral and species policy statements available on the web site, as relevant.

Your assessment of likely impacts should consider whether a bioregional plan is relevant to your proposal. The Minister has prepared four marine bioregional plans (MBP) in accordance with section 176. It is likely that the MBP's will be more commonly relevant where listed threatened species, listed migratory species or a Commonwealth marine area is considered.

Note that even if your proposal will not be taken in a World Heritage area, Ramsar wetland, Commonwealth marine area, the Great Barrier Reef Marine Park or on Commonwealth land, it could still impact upon these areas (for example, through downstream impacts). Consideration of likely impacts should include both direct and indirect impacts.

3.1 (a) World Heritage Properties

Description

The Great Barrier Reef World Heritage Area (GBRWHA) extends along the Queensland coast from Cape York Peninsula to just north of Fraser Island and from mean low water seaward to beyond the continental shelf and covers an area of approximately 348,000 km². The GBRWHA was listed against each of the four natural criteria for world heritage areas, generally reflecting geological phenomena; ecological and biological processes; aesthetics and natural beauty; and biological diversity.

The Statement of Universal values for the GBRWHA identifies

The GBRWHA has been listed against all four of the natural criteria outlined in the Guidelines (UNESCO, 2013). These being:

Criterion 7: contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance.

Criterion 8: be outstanding examples representing major stages of earth's history, including the record of life, significant ongoing geological processes in the development of landforms, or significant geomorphic or physiographic features.

Criterion 9: be outstanding examples representing significant ongoing ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals.

Criterion 10: contain the most important and significant natural habitats for *in-situ* conservation of biological diversity, including those containing threatened species of Outstanding Universal Value from the point of view of science or conservation.

All World Heritage properties are required to meet the conditions of integrity. This is defined by the Guidelines as "*a measure of the wholeness and intactness of the natural and/or cultural heritage and its attributes*". An assessment of the integrity of a property is required to determine the extent to which the property:

- Includes all elements necessary to express its Outstanding Universal Value
- Is of adequate size to ensure the complete representation of the features and processes which convey the property's significance
- Suffers from adverse effects of development and/or neglect.

The Statement of Outstanding Universal Value for the GBRWHA (GBRMPA, 2012) concludes that in relation to integrity:

- The integrity of the GBR is "enhanced by the unparalleled size and current good state of conservation across the area"
- While a number of natural pressures occur (e.g. Cyclones and crown-of-thorns starfish outbreaks), given the scale of the GBR "most habitats or species groups have the capacity to recover from disturbance or withstand ongoing pressures"
- The property is largely intact and includes the fullest possible representation of marine ecological, physical and chemical processes from the coast to the deep abyssal waters enabling the key interdependent elements to exist in their natural relationships
- Effective conservation programs are essential in areas adjacent to the GBR (e.g. coastal catchments) given that some of the key processes of the Reef occur outside its boundaries

In 1997, the Great Barrier Reef Marine Park Authroity (GBRMPA) undertook a study which identified 29 natural heritage attributes of the GBRWHA (Lucas et al, 1997). The Abbot Point Cumulative Impact Assessment considered these World Heritage Attributes and there relevance to Abbot Point and determined that 3 of the 29 natural attributes were applicable to Abbot Point (ELA, 2013) :

- Aesthetics
- Birds
- Marine mammals

In the Statement of Reasons for approval of the Abbot Point Growth Gateway Project the DoE identified that the following values were also relevant to the Abbot Point area (DoE, 2015):

- Corals
- Marine turtles
- Seagrass

The following provides a description each of these attributes relevant to the proposed action area.

Aesthetics

Aesthetics were determined to be relevant to two of the listing criterion: superlative natural beauty above and below the water (criterion 7); and unique and varied seascapes and landscapes (criterion 8). As part of the Abbot Point CIA, an assessment of Abbot Point's aesthetic attributes was undertaken in relation to criterion 7, finding that Abbot Point does not encompass areas of exceptional natural beauty, but rather is representative of broad-scale coastal features impacted both by industrial and agricultural development (Cardno Chenoweth, 2012). This finding is representative of the fact that Abbot Point is an existing industrial port.

The proposed action area is part of the existing port facilities and as such part of the industrial port and is not considered to represent aesthetic values relevant to the World Heritage values.

Birds

Birds species were determined to be relevant to three of the listing criterion: breeding colonies of seabirds (criterion 7); other fauna including microfauna (criterion 9); important role of birds, such as the pied imperial pigeon, in processes such as seed dispersal and plant colonisation (criterion 9); diversity supporting marine and terrestrial species (global conservation significance) (criterion 10); 242 species of birds (criterion 10); and 22 seabird species breeding (cays and some continental islands have globally significant breeding sites) (criterion 10).

A number of bird surveys have been completed at Abbot Point and in particular at the adjacent Caley Valley Wetlands (Ecoserve, 2007; BAAM, 2012; GHD, 2009) which have documented the various bird species present within the broader region. The Caley Valley Wetland is documented as providing significant habitat for migratory shorebirds and other water birds, and the coastal fore dunes surrounding Abbot Point are documented to provide habitat for a number of species.

The proposed action area is located approximately 4 km north west of the Caley Valley Wetland and is separated by the existing Abbot Point Coal Terminal 1. Areas of fore dune exist immediately south of

the proposed action area. As discussed in Section 3.1 (d) and (e) a limited number of listed threatened and migratory bird species are considered likely to occur within the immediate vicinity of the proposed action area.

Marine mammals

Marine mammals were determined to be relevant three of the listing criteria: migrating whales (criterion 7); other fauna including microfauna (criterion 9); diversity supporting marine and terrestrial species (global conservation significance) (criterion 10); dugong (criterion 10); species of whales (criterion 10); species of dolphins (criterion 10); and humpback whale calving (criterion 10).

The most commonly reported marine mammals within Abbot Point area are dugongs, snubfin dolphins, Indo-Pacific humpback dolphins and humpback whales (GHD, 2009b). Dugong populations are monitored by aerial survey along the Queensland coast every five years. This data collection also records inshore dolphin species where possible. Dugongs have been observed within port limits and they are known to migrate along the Queensland coast up to hundreds of kilometres between feeding sites.

The proposed action area is largely confined to intertidal and inshore environs which does not support these species.

Corals

Corals were determined to be relevant to each of the listing criterion: coral assemblages of hard and soft corals (criterion 7); coral reef ecosystems (criterion 8); coral reefs, sand banks and coral cays (criterion 9); and coral reefs and coral cays (criterion 10).

Baseline environment surveys of the benthic macroinvertebrate communities at the Port of Abbot Point identified 14 benthic macroinvertebrate regions, however no coral areas of high environmental value were observed within the Project Limits (see GHD, 2009c in Attachment 4). This assessment found that the majority of inshore areas were comprised of open substrate and low density benthic macroinvertebrate cover, supporting mostly soft corals (GHD, 2009c).

The baseline environmental survey shows that there are no significant coral communities in the vicinity of the proposed action area or in areas that could be directly or indirectly impacted by the proposed action (GHD, 2009c). The proposed action area is characterised as being area of low density benthic macroinvertebrate cover (1 – 10% cover) (GHD, 2009c). Areas of open substrate (<1% cover) are located immediately north and south of the proposed action area (GHD, 2009c).

Marine turtles

Marine turtles were determined to be relevant to two of the listing criterion: Green turtle breeding (criterion 7, 10); nesting turtles (criterion 7); marine turtle (criterion 10); and marine turtle rookeries (criterion 10).

Five of the six threatened marine turtle species have previously been observed within the Abbot Point Port Limits, Loggerhead, Green, Hawksbill, Olive Ridley and Flatback turtles (Bell, 2003; Dobbs, 2007; GHD, 2009b). A baseline turtle foraging and nesting study identified the Abbot Point area as being foraging habitat for Green and Loggerhead turtles and a low density nesting habitat for Flatback and Green turtles (Bell, 2003). Areas of seagrass within the Port Limits do provide foraging habitat for Green, Hawksbill and Flatback turtles and the area is considered to be a high priority area for Green Turtles within the GBRMP, however the habitat is low density and patchy in nature (Dobbs, 2007). These reports have each concluded that Abbot Point provides for low density foraging and nesting for marine turtles and each of the populations present in the Abbot Point area are well-represented in other regions through the GBRWHA (GHD, 2009b). The area is not considered to support a critical population or represent critical habitat for any of the turtle species known to occur (ELA, 2013).

The proposed action area is within the intertidal and inshore environs of the existing MOF. As described below, limited seagrass habitat is present within this area and as such few foraging marine turtles would be expected to present.

Seagrass

Seagrass was determined to relevant to one of the listing criterion: diversity of seagrass (criterion 10); and plant species diversity and endemism (criterion 10).

Baseline monitoring of seagrass has occurred at Abbot Point since 2008 (see Attachment 4). Seagrass has been found to be highly variable in the region and has in recent years been influenced by severe tropical cyclones (McKenna and Rasheed, 2014). Surveys have concluded that an extensive coverage of seagrass (up to 42%) exists within the Ports Limits but is highly variable across seasons and generally comprises low biomass meadows when compared with other coastal regions within Queensland (Rasheed et al. 2008). The seagrass coverage is generally associated with larger areas of offshore meadows, and smaller inshore meadows.

Seagrass is not mapped as occurring within the immediate vicinity of the proposed action area, although it has previously been mapped in the inshore areas to the south and also to the north west of the Abbot Point headland (see McKenna and Rasheed, 2014 in Attachment 4).

Nature and extent of likely impact

Address any impacts on the World Heritage values of any World Heritage property.

The proposed action will occur partially within and adjacent to the GBRWHA. The following describes the proposed action and the potential for impact relevant to each of the WHA criterion.

Aesthetics

The proposed action will occur within the existing footprint of the Port of Abbot Point and comprises the maintenance and upgrade of existing infrastructure. Given the proposed action does not propose to materially change or increase the intensity of the existing use and given the aesthetics of Abbot Point have previously been identified as dominated by industrial development (Cardno Chenowth, 2012) it is not considered that the proposed action will have a significant impact on this attribute of the WHA.

Birds

The proposed action will occur within the existing footprint of the Port of Abbot Point and comprises maintenance activities. The significance of Abbot Point to threatened and migratory birds which contribute to the world heritage values is associated with the Caley Valley Wetland which is not proximal to the proposed action area, located 4 km south west of the proposed action and separated by the Abbot Point Coal Terminal 1.

Given these factors it is considered highly unlikely that the proposed action will have a significant impact on this attribute of the WHA.

Marine mammals

The proposed action will occur within the inshore and intertidal extent of the existing Abbot Point MOF.

Underwater noise will be generated by maintenance dredging, however this will be very intermittent and limited to a period of approximately 3-4 weeks. The marine noise associated with dredging activities and supporting vessels is continuous in nature and a low-level emission in comparison to construction activities such as blasting activities. One of the most commonly observed behavioural responses to noise is displacement, with individuals moving away from noisy vessels should they cause annoyance (Advisian, 2015; Richardson et al. 1995; National Research Council 2005). Other studies, of significantly larger dredging projects, have also found that whilst noise associated with dredging may result in disturbance to individuals within a range of 3 km the consequent disturbance is expected to be limited, considering the ecological characteristics of assessed marine fauna species, as well as the existing ambient noise environment within the Port (Advisian, 2015).

Previous studies, of significantly larger dredging activities, than that proposed, have indicated that while some avoidance of areas of works may occur, it is considered unlikely that marine mammals

within the waters near Abbot Point would be unduly affected by the proposed activities (Advisian, 2015).

Given the temporary and minor nature of works associated with the proposed action it is considered very unlikely that the proposed action will have a significant impact on this attribute of the WHA.

Corals

The proposed action area is located within an area of low density benthic cover. The proposed action will occur within the inshore and intertidal area of the existing Abbot Point MOF with no direct impact to the immediately surrounding seabed.

A small volume of maintenance dredge material is required to be removed, between 10,000 m³ and 30,000 m³ which will occur over a period of 3-4 weeks. The short duration and nature of the material to be dredged, being course to medium sands, will minimise the generation of turbidity. Localised turbidity will be generated as part of the maintenance dredging and relocation of material to the beach nourishment area. The maintenance dredging is mostly confined within the existing MOF and the associated breakwater acts to limit the movement and extent of turbid water. Previous maintenance dredging at the MOF has not resulted in the generation of extensive turbidity within the local area. Modelling of other, much larger dredging projects within the region, has indicated that turbidity is more significantly associated with the placement of dredged material in offshore relocation areas rather than at the point source of the dredger (GHD, 2009; SKM, 2015; Advisian, 2015). Modelling conducted as part of the Abbot Point Growth Gateway Project found that using a cutter suction dredger turbidity did not extend further than 500 m from the point source (Advisian, 2015). As such the relocation of dredged material to the beach nourishment area rather than offshore, will limit the potential for generation of turbidity.

The material to be relocated is comprised of course sands and some finer material. It is expected that following placement of material in the beach nourishment area that some of the finer material will disperse around the Abbot Point headland with the natural movement of currents. The maintenance dredging and placement of material in the beach nourishment area will be undertaken in accordance with a dredge management plan which will be approved prior to commencement of works (see attachment 5).

Given the low density of benthic cover within the immediate area of the proposed action and the minor nature of the works it is considered highly unlikely that the proposed action will have a significant impact on this attribute of the WHA.

Marine turtles

The proposed action will occur within the inshore and intertidal area of the existing Abbot Point MOF, an area which does not represent habitat for marine turtles. As noted above the maintenance dredging and placement of material within the beach nourishment area can be expected to generate localised turbidity, however this would not impact upon areas of seagrass habitat located within the broader region. Nesting beaches known to be utilised by green turtles are located immediately south of the proposed action area. These will not be directly impacted by the works. Nesting on these beaches to the south of the MOF, currently occurs adjacent to the activities at the Abbot Point Coal Terminal 1 and the proposed maintenance and renewal of the MOF is not expected to contribute to an increase in these impacts.

Operational management measures will also utilised, including turtle exclusion devices on the dredger, to prevent impacts to marine turtles.

Given the lack of habitat for marine turtles within the immediate vicinity of the proposed action and temporary and minor nature of works it is considered highly unlikely that the proposed action will have a significant impact on this attribute of the WHA.

Seagrass

The proposed action will occur within the inshore and intertidal area of the existing Abbot Point MOF with no direct impact to the immediately surrounding seabed. There are no areas of seagrass located within the immediate vicinity of the proposed action, with the nearest areas being to the south and north west.

Potential impacts from the proposed action relate to indirect impacts through the generation and movement of turbid water associated with the maintenance dredging and placement of material in the beach nourishment area. As discussed in relation to impacts to corals, it is expected that turbidity generated by the dredger will be substantially contained within the MOF area and at most extend up to 500 m from the point source of the dredger.

Given that no areas of seagrass are located within the immediate vicinity of the proposed action and temporary and minor nature of works it is considered highly unlikely that the proposed action will have a significant impact on this attribute of the WHA.

Integrity

The proposed action comprises maintenance activities at an existing facility which is not considered to materially change or increase the intensity of the existing use of this facility. This facility has been in operation since the 1980's and the proposed action is minor in nature. Given the minor nature of the action it is considered highly unlikely for the integrity of the GBRWHA as a whole to be impacted by the proposed action.

Based on the above consideration of the attributes of World Heritage Values relevant to the proposed action area it is considered very unlikely that the proposed action will:

- cause one or more of the attributes to be lost
- cause one or more of the attributes to be degraded or damaged
- cause one or more of the attributes to be notably altered, modified, obscured or diminished, or
- impact on the integrity of the property.

3.1 (b) National Heritage Places

Description

The National Heritage listing for the GBR identifies values as follows:

Criterion A Events, Processes: This place is taken to meet this National Heritage criterion in accordance with subitem 1A(3) of Schedule 3 of the *Environment and Heritage Legislation Amendment Act (No.1)* 2003, as the World Heritage Committee has determined that this place meets World Heritage criteria (7), (8), (9) and (10).

Criterion B Rarity: This place is taken to meet this National Heritage criterion in accordance with subitem 1A(3) of Schedule 3 of the *Environment and Heritage Legislation Amendment Act (No.1)* 2003, as the World Heritage Committee has determined that this place meets World Heritage criteria (10).

Criterion C Research: This place is taken to meet this National Heritage criterion in accordance with subitem 1A(3) of Schedule 3 of the *Environment and Heritage Legislation Amendment Act (No.1)* 2003, as the World Heritage Committee has determined that this place meets World Heritage criteria (8), (9) and (10).

Criterion D Principal characteristics of a class of places: This place is taken to meet this National Heritage criterion in accordance with subitem 1A(3) of Schedule 3 of the *Environment and Heritage Legislation Amendment Act (No.1)* 2003, as the World Heritage Committee has determined that this place meets World Heritage criteria (8), (9) and (10).

Criterion E Aesthetic characteristics: This place is taken to meet this National Heritage criterion in accordance with subitem 1A(3) of Schedule 3 of the *Environment and Heritage Legislation Amendment Act (No.1)* 2003, as the World Heritage Committee has determined that this place meets World Heritage criteria (7).

Given that the National Heritage Values directly reference the World Heritage criterion the description of the attributes relevant to each of the those criterion identified in Section 3.1 (a) are considered to reflect the National Heritage values.

No other National Heritage Places are listed as occurring within the vicinity of the proposed action.

Nature and extent of likely impact

Address any impacts on the National Heritage values of any National Heritage place.

The nature and extent of potential impacts is as described for the World Heritage Values in Section 3.1 (a). Based on that assessment it is considered unlikely that the proposed action will have a significant impact on National Heritage Values of the GBR.

3.1 (c) Wetlands of International Importance (declared Ramsar wetlands)

Description

No wetlands of international importance are identified as occurring within the vicinity of the proposed action.

Nature and extent of likely impact

Address any impacts on the ecological character of any Ramsar wetlands.

Not applicable.

3.1 (d) Listed threatened species and ecological communities

Description

The Protected Matters Search Tool (reported 30 March 2015) (see Attachment 4) identified a total of 22 threatened species and one threatened ecological community as occurring or potentially occurring within the vicinity of the proposed action, including:

- Six birds
- Five mammals
- Eight reptiles
- Three sharks
- Semi-evergreen vine thicket of the Brigalow Belt and Nandewar Bioregions

The following table provides an assessment of the likelihood of occurrence of these species within the vicinity of the proposed action. This assessment is based on a number of previous studies conducted at Abbot Point. The likelihood of occurrence is defined as follows:

- Known to occur: the species has been observed within the proposed action area
- Likely to occur: the species is known from the broader region and suitable habitat exists within the proposed action area
- May occur: the species is known to occur within the broader region, however no suitable habitat for the species occurs within the proposed action area
- Unlikely to occur: no suitable habitat is present within the proposed action area
- Does not occur: field survey has verified not presence of the species

Species	EPBC Status	Likelihood of occurrence
Birds		
Red Goshawk *Erythrotriorchis radiates*	Vulnerable	The Red Goshawk has a large home range spanning between 50 and 220 km². The species is commonly found inhabiting mixed vegetation types including tall open forest, woodland, lightly treed savannah and the edge of rainforest. Nests are

		in tall trees within one km of and often beside, permanent water (river, swamp, pool), usually in fairly open, biologically rich forest or woodland (DoE, 2016). This species may overfly the region however no suitable habitat for the species exists with the proposed action area. The species is considered **unlikely to occur**.
White-bellied Storm-petrel *Fregetta grallaria grallaria*	Vulnerable	The White-bellied Storm-petrel occurs across sub-tropical and tropical waters in the Tasman Sea, Coral Sea and, possibly, the central Pacific Ocean. It forages over near-shore waters along the continental and breeds in offshore islets (DoE, 2016). This species may overfly the region however no suitable habitat for the species exists with the proposed action area. The species is considered **unlikely to occur.**
Star Finch (eastern, southern) *Neochemia ruficauda ruficauda*	Endangered	The Star Finch occurs mainly in grassland and grassy woodlands that are located close to bodies of fresh water. No confirmed sightings of this sub-species have been made since 1995 despite systematic searches (DoE, 2016). Not records exist for the species occurring within the region. No suitable habitat exists within the proposed action area. The species is considered **unlikely to occur**.
Black-throated Finch (souther) *Poephila cincta cincta*	Endangered	The Black-throated Finch (southern) occurs mainly in grassy, open woodlands and forests, typically dominated by *Eucalyptus*, *Corymbia* and *Melaleuca*, and occasionally in tussock grasslands or other habitats (for example freshwater wetlands), often along or near watercourses, or in the vicinity of water (DoE, 2016). This species has previously been recorded within the broader region, but no records exist for the species within the proposed action area. No suitable habitat exists within the proposed action area. The species is considered **unlikely to occur.**
Australian Painted Snipe *Rostratula australis*	Endangered	The Australian Painted Snipe is generally found in either permanent or temporary shallow inland wetlands, generally freshwater although brackish wetlands are also utilised. It nests on the ground among tall reed-like vegetation near water, and feeds near the water's edge on mudflats, taking invertebrates, such as insects and worms and seeds (DoE, 2016). This species has been recorded as occurring within the Caley Valley Wetlands approximately 4 km south west of the proposed action area (GHD, 2008; BAAM, 2012); however no suitable habitat exists within the proposed action area. The species is considered **unlikely to occur.**
Masked Owl (northern) *Tyto novahollandiae kimberli*	Vulnerable	The Masked Owl has been recorded from riparian forest, rainforest, open forest, *Melaleuca* swamps and the edges of mangroves, as well as along the margins of sugar cane fields (DoE, 2016). The species has not been recorded south of Townsville. No suitable habitat occurs within the proposed action area. The species is considered **unlikely to occur.**
Mammals		
Blue Whale *Balalenoppter musculus*	Endangered	Blue whale sightings in Australian waters are widespread, and it is likely that the whales occur around the continent at various times of the year. However, much of the Australian continental shelf and coastal waters have no particular significance to the whales and are used only for migration

		and opportunistic feeding. The only known areas of significance to the blue whale are feeding areas around the southern continental shelf, notably the Perth Canyon, in Western Australia, and the Bonney Upwelling and adjacent upwelling areas of South Australia and Victoria (DoE, 2016). The species is considered **unlikely to occur.**
Northern Quoll *Dasyurus hallucatus*	Endangered	The Northern Quoll occupies a diversity of habitats across its range which includes rocky areas, eucalypt forest and woodlands, rainforests, sandy lowlands and beaches, shrubland, grasslands and desert Northern Quoll are also known to occupy non rocky lowland habitats such as beach scrub communities in central Queensland (DoE, 2016). This species has been recorded within the broader region (ELA, 2013) however, no suitable habitat occurs within the proposed action area. The species **may occur**.
Humpback Whale *Megaptera novaeangliae*	Vulnerable	The Humpback Whale is known to occur throughout the GBRMP during annual migration and calving in the northern limits (DoE, 2016). The species has previously been observed within Port Limits, but generally in offshore areas and it is unlikely to enter the inshore area of the proposed action (GHD, 2009b). The species **may occur.**
Koala *Phascolarctos cinerus*	Vulnerable	The Koala's habitat can be broadly defined as any forest or woodland containing species that are known koala food trees, or shrubland with emergent food trees (DoE, 2016). A single records exists of a koala within Abbot Point, this was associated with a single individual being found on a coal train. Previous surveys have not identified other activity associated with the presence of the species within the region. No suitable habitat exists within the proposed action area. The species is considered **unlikely to occur.**
Water Mouse, False Water Rat, Yirrkoo *Xeromys myoides*	Vulnerable	The water mouse is occurs south of Bowen. Suitable habitat includes mangroves and the associated saltmarsh, sedgelands, clay pans, heathlands and freshwater wetlands. Surveys of suitable habitat within the Caley Valley Wetland failed to find evidence of the Water Mouse (ELA, 2013). No suitable habitat exists within the proposed action area. The species is considered **unlikely to occur.**
Reptiles		
Loggerhead Turtle *Caretta caretta*	Endangered	The Loggerhead Turtle occurs in the waters of coral and rocky reefs, seagrass beds and muddy bays throughout eastern, northern and western Australia (DoE, 2016). This species has been observed foraging and mating within Port Limits however, no suitable foraging habitat occurs within the immediate area of the proposed action (GHD, 2009b). The species **may occur**.
Green Turtle *Chelonia mydas*	Vulnerable	Green Turtles nest, forage and migrate across tropical northern Australia (DoE, 2016). This species has been observed foraging and mating within Port Limits, however, no suitable foraging habitat occurs within the immediate area of the proposed action (GHD, 2009b). Nesting sites have been recorded south of the proposed action area (GHD, 2009b).

		The species **may occur**.
Ornamental Snake *Denisonia maculata*	Vulnerable	The Ornamental Snake's preferred habitat is within, or close to, habitat that is favoured by its prey - frogs. The species is known to prefer woodlands and open forests associated with moist areas, particularly gilgai (melon-hole) mounds and depressions in Queensland Regional Ecosystem Land Zone 4, but also lake margins and wetlands (DoE, 2016). Suitable habitat for this species is not present within the proposed action area. The species is considered **unlikely to occur.**
Leatherback Turtle *Dermochelys coriacea*	Endangered	The Leatherback Turtle is a pelagic feeder, found in tropical, subtropical and temperate waters throughout the world. No major nesting has been recorded in Australia (DoE, 2016). This species has not previously been observed within the Port Limits. The species is considered **unlikely to occur.**
Yakka Skink *Egernia rugosa*	Vulnerable	The Yakka Skink is known to occur in open dry sclerophyll forest, woodland and scrub with the core habitat of this species being within the Mulga Lands and Brigalow Belt South Bioregions (DoE, 2016). Diurnal reptile surveys in the Abbot Point region have not detected the species (CDM Smith, 2013). Suitable habitat for this species is not present within the proposed action area. The species is considered **unlikely to occur.**
Hawksbill Turtle *Eretmochelys imbricata*	Vulnerable	The Hawksbill Turtle are known to occur throughout the GBRMP, however no major nesting areas are within the vicinity of the Port (DoE, 2016). Adult Hawksbill Turtles forage in tropical tidal and sub-tidal coral and rocky reef habitat (DoE, 2016). This species has been observed foraging within Port Limits however, no suitable foraging habitat occurs within the immediate area of the proposed action (GHD, 2009b). The species **may occur**.
Olvive Ridley Turtle *Lepidochelys olivacea*	Endangered	Olive Ridley Turtles are known to occur throughout the GBRMP, although no concentrated nesting is known (DoE, 2016). The species forages over shallow benthic habitat ranging from several metres to over 100 m (DoE, 2016). This species has been observed foraging within Port Limits however, no suitable foraging habitat occurs within the immediate area of the proposed action (GHD, 2009b). The species **may occur**.
Flatback Turtle *Natator depressus*	Vulnerable	Flatback Turtles are known to occur throughout the GBRMP. Nesting sites for this species have been recorded south of the proposed action area (GHD, 2009a). However these nesting areas are considered aperiodic and not recorded as being of importance (Dobbs, 2007). The species **may occur**.
Sharks		
Great White Shark *Carcharodon carcharias*	Vulnerable	Great White Sharks can be found from close inshore around rocky reefs, surf beaches and shallow coastal bays to outer continental shelf and slope areas, the norther most record of the Great White Shark is Mackay (DoE, 2016). The species is considered **unlikely to occur.**
Green Sawfish *Pristis zijsron*	Vulnerable	Records indicate that the Green Sawfish occurred along the east coast of Queensland and NSW prior to the 1960s,

		however, after this period there have been no reports of this species south of Cairns (DoE, 2016). The species is considered **unlikely to occur.**
Whale Shark *Rhincodon typus*	Vulnerable	The Whale Shark is an oceanic and coastal, tropical to warm-temperate pelagic shark. It is often seen far offshore, but also comes close inshore and sometimes enters lagoons of coral atolls (DoE, 2016). The species has not been recorded in the Port Limits. The species is considered **unlikely to occur.**
TEC		
Semi-evergreen vine thicket	Endangered	Semi-evergreen vine thicket (SEVT) occurs within the broader region however ground truthing of vegetation within the immediate area of the proposed action confirms it is not present within the proposed footprint (Ecotone, 2016; Advisian, 2015). The TEC **does not occur** in the proposed action area.

Nature and extent of likely impact

Address any impacts on the members of any listened threatened species (except a conservation dependent species) or any threatened ecological community, or their habitat.

The proposed action area represents a currently developed area within the intertidal zone. The following threatened species are known, likely or may occur within the vicinity of the proposed action area, the potential impacts of the proposed action are discussed following.

Two mammals:

- Northern Quoll
- Humpback whale

Five reptiles:

- Loggerhead Turtle
- Green Turtle
- Hawksbill Turtle
- Olive Ridley Turtle
- Flatback Turtle

In determining if the proposed action is likely to have a significant impact to a threatened species known or likely to occur within the proposed action area an assessment has been made having regard to the Matters of National Environmental Significance: Significant Impact Guidelines 1.1 (DEWHA, 2009).

Mammals

Northern Quoll

The Northern Quoll has been recorded in the broader Abbot Point region (ELA, 2013) however it has not been observed within the immediate vicinity of the proposed action area. The nearest records are approximately 40 km north in the Cape Upstart National Park (ELA, 2013). As such no population is present within the proposed action area and Abbot Point is not considered to represent critical habitat for the species (ELA, 2013).

Current threats to the species include:

- Lethal toxic ingestion caused by cane toads
- Removal, degradation and fragmentation of habitat
- Inappropriate fire regimes
- Weeds and feral predators
- Parasitism (DoE, 2016).

The proposed action will not contribute to the known threats to the species. No vegetation clearing is proposed as part of the action.

The proposed action is considered unlikely to have a significant impact to the Northern Quoll.

Humpback Whale

The Humpback Whale has been observed transiting the Port Limits while migrating to and from their breeding grounds within other areas of the GBR. GHD (2009b) recorded 14 individuals in the port area during marine fauna surveys in 2009, however, these numbers are considered to be very low when considering the population estimate for the east coast population in 2010 was approximately 15,000 (Noad et al. 2011).

Based on the available information, it is considered unlikely that Abbot Point supports an important Humpback Whale population or habitat critical to the survival of Humpback Whales (ELA, 2013, GHD, 2009b). While Abbot Point is located towards the northern extent of the aggregation area identified in the Whitsunday region (DEH 2005), these areas have been mapped to provide a broad indication of the extent of aggregation areas and the information available for Abbot Point is not suggestive of a significant or important aggregation area.

Current threats to the species include:

- acoustic pollution (e.g. commercial and recreational vessel noise, and seismic survey activity)
- entanglement (e.g. in marine debris, fishing and aquaculture equipment)
- physical injury and death from ship strike
- built structures that impact upon habitat availability and/or use (e.g. marinas, wharves, aquaculture installations, mining or drilling infrastructure)
- changing water quality and pollution (e.g. runoff from land based agriculture, oil spills, outputs from aquaculture)
- changes to water flow regimes causing extensive sedimentation or erosion or altered currents in near shore habitat (e.g. canals and dredging) (DoE, 2016).

The proposed action will include a small amount of underwater noise associated with maintenance dredging however this will be very intermittent and limited to a period of approximately 3-4 weeks. The marine noise associated with dredging activities and supporting vessels is continuous in nature and a low-level emission in comparison to construction activities such as blasting activities. One of the most commonly observed behavioural responses to noise is displacement, with individuals moving away from noisy vessels should they cause annoyance (Advisian, 2015; Richardson et al. 1995). Other studies, of significantly larger dredging projects, have also found that whilst noise associated with dredging may result in disturbance to individuals within a range of 3 km the consequent disturbance is expected to be limited, considering the ecological characteristics of assessed marine fauna species, as well as the existing ambient noise environment within the Port (Advisian, 2015).
The proposed action will not contribute to other known threats. Other activities associated with the proposed action are not considered likely to impact upon the Humpback Whale.

The proposed action is considered unlikely to have a significant impact to the Humpback Whale.

Marine Turtles

Five of the six threatened marine turtle species have previously been observed within the Abbot Point Port Limits, the Loggerhead, Green, Hawksbill, Olive Ridley and Flatback turtles. A combined assessment of these species is presented here. Species of marine turtle that have been recorded foraging and nesting at Abbot Point have been observed in low densities and are populations that are well-represented in other regional areas (GHD, 2009b). A baseline turtle foraging and nesting study identified the Abbot Point area as being a low density nesting habitat for Flatback and Green turtles and foraging habitat for Green and Loggerhead turtles (Bell, 2003). Areas of seagrass within the Port Limits do provide foraging habitat for Green, Hawksbill and Flatback turtles and the area is considered to be a high priority area for Green Turtles within the GBRMP, however the habitat is low density and patchy in nature and not proximal to the proposed action area (Dobbs, 2007). The area is not

considered to support a critical population or represent critical habitat for any of the turtle species known to occur (ELA, 2013).

Current threats to the species include:

- Commercial fishing
- Indigenous harvest
- Animal predation
- Coastal infrastructure and development
- Seismic survey
- Climate change and extreme events

With respect to the proposed action, the relevant threat for consideration is that of coastal infrastructure and development, specifically the potential for loss of habitat. Whilst associated with the development of coastal infrastructure, the proposed action comprises maintenance activities and is therefore not expected to contribute to an increase in this threat.

There are no areas of seagrass habitat within the immediate vicinity of the proposed action area (McKenna and Rasheed 2014) and no disturbance is proposed in areas of nesting located to the south of the proposed action. As discussed in section 3.1 (a) the proposed maintenance dredging and relocation of material to the beach nourishment area is not expected to impact upon seagrass habitat. Maintenance dredging within the MOF is also not expected to impact marine turtles with the implementation of operational control measures including use of turtle excluding devices.

The proposed action is considered unlikely to have a significant impact to marine turtles.

3.1 (e) Listed migratory species

Description

The Protected Matters Search Tool (reported 30 March 2015) (see Attachment 5) identified a total of 34 listed migratory species as occurring or potentially occurring within the vicinity of the proposed action, including:

- Two migratory marine birds
- 20 migratory marine species
- Seven migratory terrestrial species
- Five migratory wetland species

The following table provides an assessment of the likelihood of occurrence of these species within the vicinity of the proposed action. This assessment is based on a number of previous studies conducted at Abbot Point. The likelihood of occurrence is defined as follows:

- Known to occur: the species has been observed within the proposed action area
- Likely to occur: the species is known from the broader region and suitable habitat exists within the proposed action area
- May occur: the species is known to occur within the broader region, however no suitable habitat for the species occurs within the proposed action area or suitable habitat is presence but the species has not been recorded in the region
- Unlikely to occur: no suitable habitat is present within the proposed action area
- Does not occur: field survey has verified not presence of the species

Note that those species discussed in section 3.1(d) as listed threatened species are not discussed herein.

Species	EPBC Status	Likelihood of occurrence
Migratory marine birds		
Fork-tailed Swift *Apus pacificus*	Migratory	The Fork-tailed Swift is almost exclusively aerial, flying from less than 1 m to at least 300 m above ground and probably much higher. In Australia, they mostly occur over inland plains but sometimes above foothills or in coastal areas.

		This species has not been recorded at Abbot Point. The species is considered **unlikely to occur**.
Little Tern *Sterna albifrons*	Migratory	Little Terns inhabit sheltered coastal environments, including lagoons, estuaries, river mouths and deltas, lakes, bays, harbours and inlets, especially those with exposed sandbanks or sand-spits, and also on exposed ocean beaches. This species has previously been recorded within the Caley valley Wetland (GHD, 2009a; BAAM, 2012) however; habitat specific to the species is not present within the proposed action area. The species **may occur**.
Migratory marine species		
Bryde's Whale *Balaenoptera edeni*	Migratory	The Bryde's Whale is a deep water pelagic species (DoE, 2016). The species has not been observed within the broader region and no suitable habitat existing within the proposed action area. The species is **unlikely to occur**.
Saltwater Crocodile C*rocodylus porosus*	Migratory	In Queensland, saltwater crocodiles are usually restricted to coastal waterways and floodplain wetlands (DoE, 2016).The species has not previously been recorded within Abbot Point. The species is **unlikely to occur**.
Dugong *Dugong dugon*	Migratory	Dugong occur throughout much of the GBRMP where seagrass habitat is available. The species has been observed foraging within the Port Limits (GHD, 2009b). However, no habitat suitable for the species is present within the proposed action area (McKenna and Rasheed, 2014). The species **may occur**.
Porbeagle, Mackeral Shark *Lamna nausu*	Migratory	The Mackeral Shark primarily inhabits oceanic waters and areas around the edge of the continental shelf. They occasionally move into coastal waters, but these movements are temporary (DoE, 2016). The species is **unlikely to occur**.
Reef Manta Ray *Manta alfredi*	Migratory	Reef Manta Rays are widespread throughout the GBRMP and move across a range of habitats. The species has not been observed within the broader region. Potentially suitable habitat is within the vicinity of the proposed action area. The species is considered **likely to occur**.
Giant Manta Ray *Manta birostris*	Migratory	Manta Rays are widespread throughout the GBRMP and move across a range of habitats. The species has been observed within the Port Limits (GHD, 2009b). The species is **known to occur**.
Irrawaddy dolphin, Snubfin Dolphin *Orcaella brevirostris, Orcaella heinsohni*	Migratory	Snubfin Dolphins have been recorded almost exclusively in coastal and estuarine waters. The species has been observed within the Port Limits (GHD, 2009b). The species is **known to occur**.
Killer Whale *Orcinus orca*	Migratory	The species has not been observed within the broader region of Abbot Point. The species is **unlikely to occur**.
Indo-Pacific Humpback Dolphin *Sousa chinensis*	Migratory	Indo-Pacific Humpback Dolphins inhabit shallow coastal, estuarine, and occasionally riverine habitats, in tropical and subtropical regions. The species has been observed within the Port Limits (GHD, 2009b). The species is **known to occur**.

Migratory terrestrial species		
Oriental Cuckoo *Cuculus optatus*	Migratory	The species has previously been recorded as occurring within the Caley Valley Wetland (BAAM, 2012). However, habitat for the species is not present within the proposed action area. The species **may occur**.
White-throated Needletail *Hirundapus caudacutus*	Migratory	The White-throated Needletail is an almost exclusively aerial species (DoE, 2016). The species has not previously been recorded within the Abbot Point region, however it may overfly the area. The species **may occur**.
Rainbow Bee-eater *Merops ornatus*	Migratory	The Rainbow Bee-eater occurs mainly in open forests and woodlands, shrublands, and in various cleared or semi-cleared habitats (DoE, 2016). The species has previously been recorded as occurring within the Abbot Point region (GHD, 2009a; BAAM, 2012). However, habitat for the species is not present within the proposed action area. The species **may occur**.
Black-faced Monarch *Monarcha melanopsis*	Migratory	The Black-faced Monarch occurs across a range of habitats including vine-thickets and shrubland. The species has been recorded within the Abbot Point region (Ecoserve, 2007). However limited suitable habitat is within the vicinity of the proposed action area. The species is considered **likely to occur**.
Spectacled Monarch *Monarcha trilivirgatus*	Migratory	The Spectacled Monarch inhabits rainforest and mangrove areas. The species has not previously been recorded within the Abbot Point region. Suitable habitat is not present within the proposed action area. The species is **unlikely to occur**.
Satin Flycatcher *Myiagra cyanoleuca*	Migratory	The Satin Flycatchers mainly inhabits eucalypt forests, often near wetlands or watercourses (DoE, 2016). The species has been recorded within the Abbot Point region; however, habitat for the species is not present within the proposed action area (Ecoserve, 2007). The species **may occur**.
Rufous Fantail *Rhipidura rufifrons*	Migratory	The Rufous Fantail mainly inhabits wet sclerophyll forests (DoE, 2016). The species has been recorded within the Abbot Point region; however, habitat for the species is not present within the proposed action area (GHD, 2009b). The species **may occur**.
Migratory wetlands species		
Great Egret *Ardea alba*	Migratory	The Great Egret has been reported in a wide range of wetland habitats (DoE, 2016). This species has been recorded within the freshwater area of Caley Valley Wetland (GHD, 2009a; BAAM, 2012). However, suitable habitat does not exist within the proposed action area. The species **may occur**.
Cattle Egret *Ardea ibis*	Migratory	The Cattle Egret occurs in tropical and temperate grasslands, wooded lands and terrestrial wetlands (DoE, 2016). This species has been recorded within the freshwater area of Caley Valley Wetland (GHD, 2009a; BAAM, 2012). However suitable habitat does not exist within the proposed action area.

		The species **may occur**.
Latham's Snipe *Gallinago hardwickii*	Migratory	The Latham's Snipe occurs in permanent and ephemeral wetlands (DoE, 2016). This species has been recorded within the freshwater area of Caley Valley Wetland (GHD, 2009a; BAAM, 2012). However suitable habitat does not exist within the proposed action area. The species **may occur**.
Bar-tailed Godwit *Limosa lapponica*	Migratory	The Bar-tailed Godwit is found mainly in coastal habitats such as large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays. It is found often around beds of seagrass and, sometimes, in nearby saltmarsh (DoE, 2016). This species has not previously been recorded within the broader region, but suitable habitat may exist within the immediate vicinity of the proposed action area. The species **may occur**.
Eastern Osprey *Pandion haliaetus*	Migratory	Eastern Ospreys occur in littoral and coastal habitats and terrestrial wetlands of tropical and temperate (DoE, 2016). This species has been recorded within the Caley Valley Wetland (GHD, 2009a; BAAM, 2012). However suitable habitat does not exist within the proposed action area. The species **may occur**.

Nature and extent of likely impact

Address any impacts on the members of any listed migratory species, or their habitat.

The proposed action area represents a currently developed area within the intertidal zone. The following migratory species are known, likely or may occur within the vicinity of the proposed action area, the potential impacts of the proposed action are discussed following. Note that those species also listed as threated are discussed in Section 3.1 (d) herein.

One migratory marine bird:

- Little Tern

Five migratory marine species:

- Dugong
- Reef Manta Ray
- Giant Manta Ray
- Irrawaddy, Snubfin Dolphin
- Indo-Pacific Dolphin

Six migratory terrestrial species:

- Oriental Cuckoo
- White-throated Needletail
- Rainbow Bee-eater
- Black-faced Monarch
- Satin Flycatcher
- Rufous Fantail

Five migratory wetland species:

- Great Egret
- Cattle Egret
- Latham's Snipe
- Bar-tailed Godwit
- Eastern Osprey

In determining if the proposed action is likely to have a significant impact to a threatened species known or likely to occur within the proposed action area an assessment has been made having regard to the Matters of National Environmental Significance: Significant Impact Guidelines 1.1 (DEWHA, 2009); the Referral Guideline for 14 Birds listed as Migratory Species under the EPBC Act (DoE, 2015).

Migratory marine birds

The Little Tern occurs within the Caley Valley Wetland and also potentially along the coastal beaches of Abbot Point (BAAM, 2012). The proposed action area is within existing coastal infrastructure and is therefore unlikely to provide habitat for the species.

Presence of important habitat or an ecologically significant proportion of the species is considered unlikely as less than 1% of the known Australian population is present at Abbot Point (ELA, 2013). Threats to the species include breeding failure and loss or degradation to habitat.

The proposed action is considered unlikely to have a significant impact to the Little Tern.

Migratory marine species

Dugong

The dugong is a marine mammal that has its population stronghold within Australian waters. This species is heavily dependent on seagrass for subsistence and is thus restricted to the coastal habitats where they grow. Dugong concentrations typically occurring in wide, shallow, protected areas such as bays, mangrove channels and the lee sides of large inshore islands. Abbot Point is located between two DPAs, namely 'Dugong Sanctuary A' at Upstart Bay (44 km north-west of Abbot Point) and 'Dugong Sanctuary B' at Edgecumbe Bay (35 km south-east of Abbot Point). Both areas are well distanced from the proposed action area.

Current threats to the species include:

- Habitat degradation, including coastal development, port expansion and aquaculture
- Pollution
- Entanglement and incidental bycatch in fisheries gear
- Entanglement in shark netting
- Indigenous hunting
- Vessel strike
- Anthropogenic noise and acoustic disturbance
- Climate variability and change

With respect to the proposed action, the relevant threats for consideration are that of habitat degradation; vessel strike; and anthropogenic noise. The proposed maintenance dredging and relocation of material to the beach nourishment area has the potential to indirectly impact upon seagrass habitat. Rasheed et al. (2005) noted that the numerically dominant seagrass species found in the study area (*Halophila spp.* and *Halodule spp.*) are the preferred food resources of dugongs. However, recent surveys of seagrass throughout the Port show that no areas of seagrass are within the proposed action area and as such would not be directly impacted (McKenna and Rasheed, 2014).

A small volume of material is required to be removed, between 10,000 m³ and 30,000 m³ which will occur over a period of 3-4 weeks. The short duration and nature of the material to be dredged, being course to medium sands, will minimise the generation of turbidity and potential for indirect impacts to habit. Localised turbidity will be generated as part of the maintenance dredging and relocation of material to the beach nourishment area and may also be generated during the replacement of the sheet pile wall. The maintenance dredging is mostly confined within the existing MOF and the associated breakwater acts to limit the movement and extent of turbid water. Previous maintenance dredging at the MOF of similar volumes has not resulted in the generation of extensive turbidity within the local area. Modelling of other, much larger dredging projects within the region, has indicated that turbidity is more significantly associated with the placement of dredged material in offshore relocation areas rather than at the point source of the dredger (GHD, 2009; SKM, 2015; Advisian, 2015). Modelling conducted as part of the Abbot Point Growth Gateway Project found that using a cutter suction dredger turbidity did not extend further than 500 m from the point source (Advisian, 2015). As such the relocation of dredged material to the beach nourishment area offers a positive alternative limiting the potential for generation of turbidity as compared to other relocation options.

The material to be relocated is comprised of course sands and some finer material. It is expected that following placement of material in the beach nourishment area that some of the finer material will disperse around the Abbot Point headland with the natural movement of currents. Operational controls will be utilised to minimise this potential, the details of which will be incorporated into the Contractors Project Specific Dredge Management Plan developed under the framework of an approved Dredge Management Plan (see attachment 5). Given the location of the sheet pile wall within the confines of the existing breakwater it is not expected that turbidity would extend beyond the MOF.

Given the small volume of material to be removed from the MOF and lack of habitat within proximity to the proposed action area it is not considered likely that a significant impact to habitat would occur.

The proposed action will occur largely within the confines of the existing MOF, using stationary and slow moving vessels, as such it is very unlikely that vessel strike would occur. Management measures will be incorporated into the Contractors Project Specific Dredge Management Plan developed under the guiding framework of the approved Dredge Management Plan, such as limiting vessel speeds to minimise this potential impact.

As discussed in relation to other marine mammals studies have also found that whilst noise associated with dredging may result in disturbance to individuals within a range of 3 km the consequent disturbance is expected to be limited, considering the ecological characteristics of assessed marine fauna species, as well as the existing ambient noise environment within the Port (Advisian, 2015).

The proposed action is not considered likely to result in or 'lead to the long term decrease in the size of a population'. The Abbot Point area is not recognised as unique or critical habitat for the population of dugong and these species are also observed to co-existence within the operating port environment. Therefore the project will not 'reduce the area of occupancy of the species'. As such the proposed action is considered very unlikely to have a significant impact to dugongs.

Inshore dolphins

Both the Snubfin and Indo-Pacific dolphins are recorded as occurring within the Abbot Point Port Limits and are known to occur in inshore areas along the extent of the northern east coast of Queensland. The species observed are known to exhibit patterns of migration and remigration suggesting their utilisation of the area is transitory. These species are also observed to coexist within the existing operating port environment. Inshore dolphin populations are not restricted to the immediate area of the proposed action for their habitat requirements and species observed within the development area were found to utilise the extent of the port limits (GHD, 2009b). The population within the region is not considered to represent a significant population nor does the require represent unique or critical habitat known to be of preference to these species.

Current threats to the species include:

- Habitat destruction and degradation
- Incidental capture in nets
- Competition with fisheries
- Pollution of habitat
- Interaction with vessels
- Pathogens
- Slow reproductive rate

With respect to the proposed action, the relevant threats for consideration are that of habitat destruction and degradation and interaction with vessels. The proposed action relates to an existing facility within the Port of Abbot Point and is for maintenance activities and, as such will not contribute to habitat destruction and degradation.

The proposed action will occur largely within the confines of the existing MOF, using stationary and slow moving vessels, as such it is very unlikely that vessel strike would occur. Management measures limiting vessel speeds will be implemented to minimise any potential impact.

The proposed action is not considered likely to result in or 'lead to the long term decrease in the size of a population'. The Abbot Point area is not recognised as unique or critical habitat for the population of Snubfin or indo-Pacific Humpback dolphins and these species are also observed to co-existence within

the operating port environment. Therefore the project will not 'reduce the area of occupancy of the species'. As such the proposed action is considered very

unlikely to have a significant impact to either the Snubfin or Indo-Pacific dolphin.

Migratory terrestrial species

The migratory terrestrial species which are known, likely to occur or may occur within the proposed action area include the Oriental Cuckoo, Rainbow Bee-eater, Black-faced Monarch, Satin Flycatcher and Rufous Fantail, and White-throated Needletail. Whilst each of these species has been recorded within the broader abbot Point region, predominantly within the Caley Valley Wetland the proposed action area does not represent habitat suitable for these species.

The presence of important habitat or an ecologically significant proportion of the Oriental Cuckoo, is considered highly unlikely as the proposed action area does not represent preferred breeding habitat for the species or support a sufficient population to be considered ecologically significant (ELA, 2013).

The presence of important habitat or an ecologically significant proportion of the Rainbow Bee-eater, Black-faced Monarch, Satin Flycatcher and Rufous Fantail species is considered highly unlikely as each of these species has a broad distribution across Australia and generalised habitat use and therefore habitat availability throughout the region (ELA, 2013).

The presence of important habitat or an ecologically significant proportion of the White-throated Needletail is considered highly unlikely as the proposed action area does not support breeding habitat or important feeding or roosting areas (ELA, 2013).

Whilst habitat suitable for these species occurs in the region, the proposed action will occur within an area of existing infrastructure and does not represent important habitat for any of the species. The area of the proposed action is similarly well below even the low thresholds identified within the guidelines (DoE, 2015). As such it is highly unlikely that the proposed action will substantially modify, destroy or isolate and area of important habitat for these species, nor will it result in the introduction of an invasive species to an area of important habitat.

The proposed action is considered unlikely to have a significant impact to either the Oriental Cuckoo, Rainbow Bee-eater, Black-faced Monarch, Satin Flycatcher and Rufous Fantail or White-throated Needletail.

Migratory wetland species

The migratory wetland species previously recorded within the region, Great Egret, Cattle Egret, Latham's Snipe and Eastern Osprey, have each been recorded within the Caley Valley Wetland, located approximately 4 km southwest of the proposed action area and separated by the Abbot Point Coal Terminal 1. Previous assessments have found that the populations of Cattle Egret; Latham's Snipe and Easter Osprey and habitat present in the Caley Valley Wetland do not represent critical populations or habitat for the species (DoE, 2015; ELA, 2013; Advisian, 2015).

The population of the Great Egret is estimated to represent more than 1% of the population and as such is considered an ecological significant proportion of the species (ELA, 2013). However, the species presence is some 4 km south west of the proposed action area and separated by the Abbot Point Coal Terminal 1. Habitat for these species is not present within the proposed action area.

Whilst habitat suitable for these species occurs in the broader Abbot Point region, the proposed action will occur within an area of existing infrastructure and does not represent important habitat for any of the species. The area of the proposed action is similarly well below even the low thresholds for identified within the guidelines (DoE, 2015 for the Osprey). As such it is highly unlikely that the proposed action will substantially modify, destroy or isolate and are of important habitat for these species, nor will it result in the introduction of an invasive species to an area of important habitat.

The proposed action is considered unlikely to have a significant impact to the Great Egret, Cattle Egret, Latham's Snipe and Eastern Osprey.

3.1 (f) Commonwealth marine area

(If the action is in the Commonwealth marine area, complete 3.2(c) instead. This section is for actions taken outside the Commonwealth marine area that may have impacts on that area.)

Description

The proposed action does not occur within a Commonwealth Marine area.

Nature and extent of likely impact

Address any impacts on any part of the environment in the Commonwealth marine area.

The proposed action involves activities which may generate localised temporary turbidity; being maintenance dredging and placement of dredge material within the beach nourishment area which is not expected to enter a Commonwealth Marine area.

The proposed maintenance dredging and beach nourishment works are expected to occur over a period of approximately 3-4 weeks and result in limited turbidity. The short duration and nature of the material to be dredged, being course to medium sands, will minimise the generation of turbidity. Localised turbidity will be generated as part of the maintenance dredging and relocation of material to the beach nourishment area. The maintenance dredging is mostly confined within the existing MOF and the associated breakwater acts to limit the movement and extent of turbid water. Previous maintenance dredging at the MOF has not resulted in the generation of extensive turbidity within the local area. Modelling of other, much larger dredging projects within the region, has indicated that turbidity is more significantly associated with the placement of dredged material in offshore relocation areas rather than at the point source of the dredger (SKM, 2015; Advisian, 2015). Modelling conducted as part of the Abbot Point Growth Gateway Project found that using a cutter suction dredger turbidity did not extend further than 500 m from the point source (Advisian, 2015). As such the relocation of dredged material to the beach nourishment area will limit the potential for generation of turbidity.

Given the location and nature of the proposed action it is considered very unlikely that it would have a significant impact to a Commonwealth Marine area.

3.1 (g) Commonwealth land

(If the action is on Commonwealth land, complete 3.2(d) instead. This section is for actions taken outside Commonwealth land that may have impacts on that land.)

Description

If the action will affect Commonwealth land also describe the more general environment. The Policy Statement titled *Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies* provides further details on the type of information needed. If applicable, identify any potential impacts from actions taken outside the Australian jurisdiction on the environment in a Commonwealth Heritage Place overseas.

No Commonwealth land is identified as occurring within the vicinity of the proposed action.

Nature and extent of likely impact

Address any impacts on any part of the environment in the Commonwealth land. Your assessment of impacts should refer to the *Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies* and specifically address impacts on:

- ecosystems and their constituent parts, including people and communities;
- natural and physical resources;
- the qualities and characteristics of locations, places and areas;
- the heritage values of places; and
- the social, economic and cultural aspects of the above things.

Not applicable.

3.1 (h) The Great Barrier Reef Marine Park

Description

The GBRMP boundary is adjacent to the Port Limits of the Port of Abbot Point. The nearest point to the GBRMP boundary is approximately 2.7 km from the proposed action area.

Nature and extent of likely impact

Address any impacts on any part of the environment of the Great Barrier Reef Marine Park.

As outlined in the Significant Impact Guidelines 1.1 (DoE 2013), an action will require approval under the EPBC Act if:

- The action is taken in the GBRMP and the action has, will have, or is likely to have a significant impact on the environment, or
- The action is taken outside the GBRMP and the action has, will have, or is likely to have a significant impact on the environment in the Great Barrier Reef Marine Park.

No components of the proposed action are proposed within the Marine Park. The proposed action involves activities which may generate localised temporary turbidity; maintenance dredging of a small volume, approximately 10,000 – 30,000 m³ of clean material, and placement of dredge material within the beach nourishment area.

The proposed maintenance dredging and beach nourishment works are expected to occur over a period of approximately 3-4 weeks and result in limited turbidity. Localised turbidity will be generated as part of the maintenance dredging and relocation of material to the beach nourishment area. The short duration and nature of the material to be dredged, being course to medium sands, will minimise the generation of turbidity. The maintenance dredging is mostly confined within the existing MOF and the associated breakwater acts to limit the movement and extent of turbid water. Previous maintenance dredging at the MOF has not resulted in the generation of extensive turbidity within the local area. Modelling of other, much larger dredging projects within the region, has indicated that turbidity is more significantly associated with the placement of dredged material in offshore relocation areas rather than at the point source of the dredger (GHD, 2009; SKM, 2015; Advisian, 2015). Modelling conducted as part of the Abbot Point Growth Gateway Project found that using a cutter suction dredger turbidity did not extend further than 500 m from the point source (Advisian, 2015). As such the relocation of dredged material to the beach nourishment area will limit the potential for generation of turbidity.

Given the location and nature of the proposed action it is considered very unlikely that it would have significant impact to the GBRMP.

Note: If your action occurs in the Great Barrier Reef Marine Park you may also require permission under the *Great Barrier Reef Marine Park Act 1975* (GBRMP Act). If so, section 37AB of the GBRMP Act provides that your referral under the EPBC Act is deemed to be an application under the GBRMP Act and Regulations for necessary permissions and a single integrated process will generally apply. Further information is available at www.gbrmpa.gov.au

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3.1 (i) A water resource, in relation to coal seam gas development and large coal mining development

Description

If the action is a coal seam gas development or large coal mining development that has, or is likely to have, a significant impact on water resources, the draft *Policy Statement Significant Impact Guidelines: Coal seam gas and large coal mining developments—Impacts on water resources* provides further details on the type of information needed.

The proposed action does not relate to coal seam gas or a large coal mining development.

Nature and extent of likely impact

Address any impacts on water resources. Your assessment of impacts should refer to the draft *Significant Impact Guidelines: Coal seam gas and large coal mining developments—Impacts on water resources*.

Not applicable.

3.2 Nuclear actions, actions taken by the Commonwealth (or Commonwealth agency), actions taken in a Commonwealth marine area, actions taken on Commonwealth land, or actions taken in the Great Barrier Reef Marine Park

You must describe the nature and extent of likely impacts (both direct & indirect) on the whole environment if your project:

- is a nuclear action;
- will be taken by the Commonwealth or a Commonwealth agency;
- will be taken in a Commonwealth marine area;
- will be taken on Commonwealth land; or
- will be taken in the Great Barrier Reef marine Park.

Your assessment of impacts should refer to the *Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies* and specifically address impacts on:

- ecosystems and their constituent parts, including people and communities;
- natural and physical resources;
- the qualities and characteristics of locations, places and areas;
- the heritage values of places; and
- the social, economic and cultural aspects of the above things.

3.2 (a)	**Is the proposed action a nuclear action?**	X	No
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment		

3.2 (b)	**Is the proposed action to be taken by the Commonwealth or a Commonwealth agency?**	X	No
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment		

3.2 (c)	**Is the proposed action to be taken in a Commonwealth marine area?**	X	No
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(f))		

3.2 (d)	**Is the proposed action to be taken on Commonwealth land?**	X	No
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(g))		

3.2 (e)	**Is the proposed action to be taken in the Great Barrier Reef Marine Park?**	X	No
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(h))		

3.3 Other important features of the environment

Provide a description of the project area and the affected area, including information about the following features (where relevant to the project area and/or affected area, and to the extent not otherwise addressed above). If at Section 2.3 you identified any alternative locations, time frames or activities for your proposed action, you must complete each of the details below (where relevant) for each alternative identified.

3.3 (a) Flora and fauna

The proposed action area is within the intertidal zone and inshore areas of Abbot Point. As previously discussed the immediate offshore area is comprised of generally open substrate with some areas of benthic habitat and seagrass cover occurring to the south and north west of the Abbot Point headland (see Attachment 4). The adjacent fore dune is largely undeveloped although has been disturbed through previous activities associated with operation of the Port.

3.3 (b) Hydrology, including water flows

Hydrodynamics

Abbot Point is subjected to semi-diurnal tides with a maximum range of 3.6 m and tidal currents up to 0.4 m/s maximum during peak spring tides and typically less than 0.3 m/s. Wind data from Bowen Airport was found to be representative of the wind climate on the coast in this region. The predominant wind is from the south-east with wind speeds up to 15 m/s.

Wave heights on the coast south of Abbot Point are rarely above 1.0m under ambient conditions and west of Abbot Point wave heights are typically less than 0.4 m and all waves are generally between 2.5 and 3.0 second wave period. However, under cyclonic conditions the maximum wave height at the outer entrance channel location was estimated to be approximately 6.0 m and the maximum significant wave height was 3.5 m. The directions from which the waves come from has a narrow focus from 30 to 90 degrees and the mean wave period is from 8 to 12 seconds.

Hydrodynamic modelling of tidal currents revealed that significant flood and ebb tide flows occur close to Abbot Point, tidal flows are generally parallel to the coastline, and tidal flows in Abbot Point south-west of Abbot Point are very small (GHD, 2009d).

Coastal processes

Coastal processes within the Abbot Point region result in a natural movement of inshore material in a northerly direction from south of the Abbot Point headland. Fine to coarse sands on the beaches and extensive areas of small boulders around the headlands and along some of the southern beaches are transported by:

- tidal currents driven by the relatively large spring tides, coupled with a mild wave climate that stirs up sediments in the shallower areas at times of low tide; and
- northerly or up-coast longshore transport of sand along the beaches in the area driven by the predominant south-easterly waves (GHD, 2009d).

Caley Valley Wetland

The Abbot Point – Caley Valley Aggregation is a 5,154 ha site that extends approximately 18 km long and 6 km wide, bounded by Mt Curlewis in the west, Euri Creek in the east, Bald Hill in the north and Caley Valley homestead in the south. This site is located within the Don River Basin.

The system comprises a complex continuous wetland aggregation of subtidal and intertidal marine and estuarine wetlands. The marine wetland is mainly intertidal and limited to the western side of the system (inshore Curlewis Bay). The majority of the estuarine part of the wetland system was artificially isolated from tidal influences in 1956 when the Bowen Gun Club constructed a bund across the Mt Stuart Creek near the downstream limit of the wetland (Hollingsworth, 1981). An inner bund incorporating the water delivery pipeline to the Abbot Point Coal Terminal and vehicle access was subsequently constructed across the wetland. Drainage culverts allow the passage of catchment flows through the bund (WBM, 2006).

3.3 (c) Soil and vegetation characteristics

The Abbot Point headland is a defined erosion prone area under the *Coastal Protection and Management Act 1995*. The 1:100 000 Geological Map of the area indicates that the solid geology below the Abbot Point area comprises igneous basement rocks, granite and granodiorite, of the Carboniferous period. Toward the coastline, the rock is overlain by a sequence of Quaternary aged (encompassing the Holocene and Pleistocene periods) alluvial and marine sediments, which are thought to comprise interbedded sand, silt and mud.

Marine sediment

Sediment sampling and analysis, of the seabed material within the Abbot Point MOF, has been undertaken in accordance with the National Assessment Guideline for Dredging (Commonwealth of Australia, 2009) (see Attachment 3).

Sediment from within the maintenance dredging area comprises generally clean medium to coarse grained sands with a neutralising capacity to counter any acid generating potential (GHD, 2015).

The medium to coarse grained texture of the sediment presents a lower aesthetic and ecological impact due to less sediment plume generation during placement to the beach nourishment area. Based on the particle size of sediments within the MOF being medium to coarse sands, and the material having chemical concentrations less than all the respective guidelines, placement of the material within the proposed beach nourishment area is considered to be a beneficial reuse of the material (GHD, 2015).

Vegetation

See section 3.3 (e).

3.3 (d) Outstanding natural features

The proposed action is adjacent to and within the Great Barrier Reef World Heritage Area, which is designated, in part for its outstanding natural features. A discussion regarding this is provided in Section 3.1(a). No other outstanding natural features occur in proximity to the proposed action area.

3.3 (e) Remnant native vegetation

There is no remnant vegetation present within the area of the proposed action. Remnant vegetation is mapped as occurring immediately adjacent to the proposed area of works within approximately (DEHP, 2016). This is mapped as of concern regional ecosystem 11.2.2 coastal fore dune complex. However, recent surveys have indicated that this is predominantly non-remnant vegetation (see Ecotone, 2016 in Attachment 4).

3.3 (f) Gradient (or depth range if action is to be taken in a marine area)

The top of the breakwater and causeway is approximately 1.1 m above HAT. The original seabed depth within the MOF was approximately -3.0 m LAT.

3.3 (g) Current state of the environment

Include information about the extent of erosion, whether the area is infested with weeds or feral animals and whether the area is covered by native vegetation or crops.

The proposed action relates to an existing use and infrastructure which has been in place since 1982 as part of the development of the Port of Abbot Point. The broader Abbot Point area has been disturbed by broad scale clearing relating to historic and current land use practices primarily related to agriculture and port activities. Despite the considerable modification to the landscape, natural habitats do persist and include areas of (fragmented) remnant vegetation, watercourses and wetlands.

The Port of Abbot Point is free of any introduced marine pests based on the results of the last baseline survey undertaken in the port. NQBP has an ongoing program of monitoring for marine pests at the Port which has not identified the presence of marine pests.

3.3 (h) Commonwealth Heritage Places or other places recognised as having heritage values

The Great Barrier Reef Region is listed on the Register of the National Estate (Commonwealth Heritage Place; Natural values). Potential impacts upon the Great Barrier Reef World Heritage Area are discussed in Section 3.1(a).

3.3 (i) Indigenous heritage values

There are a number of registered Aboriginal cultural heritage sites and areas within the Port of Abbot Point and the Abbot Point State Development Area. These cultural heritage sites and areas are listed on the Aboriginal Cultural Heritage Database and Register, which is established and maintained under the Aboriginal Cultural Heritage Act 2003 (Qld). They include shell middens and scatters at Dingo Beach, fish traps at Dingo Beach and at Shark Bay, shell middens and hearths at Dingo Beach and a camp on the western edge of the Caley Valley Wetlands basin. The registered Aboriginal cultural heritage sites and areas do not fall within the proposed action study area.

No specific Indigenous heritage values have been identified within the proposed action area.

Consultation will occur with traditional owners about the proposed action to identify any Indigenous heritage values that need to be considered and avoided.

The proposed action will be undertaken in accordance with NQBP Cultural Heritage Management Plan in place for Abbot Point.

3.3 (j) Other important or unique values of the environment

Describe any other key features of the environment affected by, or in proximity to the proposed action (for example, any national parks, conservation reserves, wetlands of national significance etc).

No other important or unique environmental values are recognised in proximity to the proposed action.

3.3 (k) Tenure of the action area (eg freehold, leasehold)

The proposed action will occur across the following land:

- Maintenance dredging area (part) within lot 52 on HR1732 Leasehold held by NQBP
-
- Beach nourishment, Maintenance dredging (part) and offshore mooring dolphins within lot 103 on SP271829 Leasehold held by NQBP

3.3 (l) Existing land/marine uses of area

The proposed action will occur within the existing Abbot Point MOF and within waters within the Port Limits.

3.3 (m) Any proposed land/marine uses of area

The proposed action is consistent with the current proposed use of the land and marine areas in which it will occur, being within the Port Facilities precinct of the APSDA Development Scheme and Port Handling Activities and Offshore Port Infrastructure precincts of the Port of Abbot Point Land Use Plan.

4 Environmental outcomes

Provide descriptions of the proposed environmental outcomes that will be achieved for matters of national environmental significance as a result of the proposed action. Include details of the baseline data upon which the outcomes are based, and the confidence about the likely achievement of the proposed outcomes. Where outcomes cannot be identified or committed to, provide explanatory details including any commitments to identify outcomes through an assessment process.

If a proposed action is determined to be a controlled action, the Department may request further details to enable application of the draft *Outcomes-based Conditions Policy 2015* and *Outcomes-based Conditions Guidance 2015* (http://www.environment.gov.au/epbc/consultation/policy-guidance-outcomes-based-conditions), including about environmental outcomes to be achieved, details of baseline data, milestones, performance criteria, and monitoring and adaptive management to ensure the achievement of outcomes. If this information is available at the time of referral it should be included.

General commitments to achieving environmental outcomes, particularly relating to beneficial impacts of the proposed action, CANNOT be taken into account in making the initial decision about whether the proposal is likely to have a significant impact on a matter protected under the EPBC Act. (But those commitments may be relevant at the later assessment and approval stages, including the appropriate level of assessment, and conditions of approval, if your proposal proceeds to these stages).

The overall objective being sought by the proposed action is improved environment performance through the introduction of beach nourishment as part of maintenance dredging activities. The proposed action has been designed to minimise the potential for environment impact and also to in part improve the environmental performance of the facility. Maintenance dredged material removed from the MOF has previously been relocated to the approved offshore relocation area. The proposal to utilise this material for beach nourishment is considered to represent a beneficial re-use of the material and an improved environmental outcome.

The following specific environmental outcomes are provided relevant to matters of NES:

- No loss of habitat for threatened marine species and migratory marine species is expected to occur as the proposed works will be undertaken within existing disturbed areas or areas of no seagrass or benthic habitat. The assessment of presence of habitat is based on existing baseline information (GHD, 2009b; McKenna and Rasheed 2014).
- No loss of habitat for threatened or migratory birds is expected to occur as the proposed works will be undertaken within existing disturbed areas or areas of no habitat. The assessment of presence of habitat is based on existing baseline information (Ecoserve, 2007; BAAM, 2012; ELA, 2013).

5 Measures to avoid or reduce impacts

Note: If you have identified alternatives in relation to location, time frames or activities for the proposed action at Section 2.3 you will need to complete this section in relation to each of the alternatives identified.

Provide a description of measures that will be implemented to avoid, reduce, manage or offset any relevant impacts of the action. Include, if appropriate, any relevant reports or technical advice relating to the feasibility and effectiveness of the proposed measures.

For any measures intended to avoid or mitigate significant impacts on matters protected under the EPBC Act, specify:

- what the measure is,
- how the measure is expected to be effective, and
- the time frame or workplan for the measure.

Examples of relevant measures to avoid or reduce impacts may include the timing of works, avoidance of important habitat, specific design measures, or adoption of specific work practices.

Provide information about the level of commitment by the person proposing to take the action to achieve the proposed environmental outcomes and implement the proposed mitigation measures. For example, if the measures are preliminary suggestions only that have not been fully researched, or are dependent on a third party's agreement (e.g. council or landowner), you should state that, that is the case.

Note, the Australian Government Environment Minister may decide that a proposed action is not likely to have significant impacts on a protected matter, as long as the action is taken in a particular manner (section 77A of the EPBC Act). The particular manner of taking the action may avoid or reduce certain impacts, in such a way that those impacts will not be 'significant'. More detail is provided on the Department's web site.

For the Minister to make such a decision (under section 77A), the proposed measures to avoid or reduce impacts must:

- clearly form part of the referred action (eg be identified in the referral and fall within the responsibility of the person proposing to take the action),
- be must be clear, unambiguous, and provide certainty in relation to reducing or avoiding impacts on the matters protected, and
- must be realistic and practical in terms of reporting, auditing and enforcement.

More general commitments (eg preparation of management plans or monitoring) and measures aimed at providing environmental offsets, compensation or off-site benefits CANNOT be taken into account in making the initial decision about whether the proposal is likely to have a significant impact on a matter protected under the EPBC Act. (But those commitments may be relevant at the later assessment and approval stages, including the appropriate level of assessment, if your proposal proceeds to these stages).

The proposed action will be undertaken in accordance with approval conditions issued as part of existing State approvals (see Attachment 2) and the following management plans:

- Construction environmental management plan (to be approved by the Qld Department of Environment and Heritage Protection) prior to commencement of construction works)
- Dredge management plan (see Attachment 5)
- Integrated Environmental Management System (see condition G7 of SPDE01288310 and G10 of EPPR01746113)

Specific management measures proposed to be implemented in the carrying out of the proposed action are detailed below. These measures reflect existing environmental approval conditions which apply to some components of the proposed action as well as additional measures.

Maintenance dredging and beach nourishment:

- Carry out all works in accordance with approval conditions under:
  - Environmental Authority EPPR01746113
  - Tidal Works Permit PM/08/0041 IPCC01150508
  - Environmentally Relevant Activity 16 1(c) SPDE01288310
- Undertake a survey and clearly delineate the area of beach nourishment, prior to commencement of deposition works.
- Ensure dredge material is only placed within the limits of the approved beach nourishment area and to the approved depth and profile.

- Ensure maintenance dredging is limited to the previously approved areas only (see condition G2 of SPDE01288310 and G1 of EPPR01746113).
- Minimise the duration of the maintenance dredging campaign as far as practicable.
- Ensure that maintenance dredging does not occur outside 1 April to 15 October, unless for an emergency situation following a cyclonic event (see condition W1 of EPPR01746113).
- Cease maintenance dredging activities if the safe operating limits for wind and waves are exceeded.
- Ensure that all dredging equipment is fitted with appropriate turtle excluding devices (see condition WA3 of SPDE01288310 and G3 of EPPR01746113).
- Ensure that the dredge will not be started unless the dredger head is located on or near the seabed to avoid interference with animals mid water (see condition W9 of EPPR01746113).
- Maintain plant and equipment (see condition G6 of SPDE01288310 and G16 of EPPR01746113).
- Set vessel speed limits within proximity of the MOF during dredging and beach nourishment works.
- Where turtles, dugongs or cetaceans are observed within a close proximity (< 150 m of mobile equipment and less than 75 m of stationary equipment) of the area of dredge, the works will be relocated of or amended to avoid potential strike or capture (see condition W10 and W11 of EPPR01746113).
- Undertake water quality monitoring before, during and after the conduct of maintenance dredging and relocation material to the beach nourishment areas as agreed with environmental agencies (see conditions G9 – G12 of SPDE01288310 and W3 of EPPR01746113).
- Make available, at all times during works, onsite spill cleanup kits at the MOF (see condition G25 of EPPR01746113.

6 Conclusion on the likelihood of significant impacts

Identify whether or not you believe the action is a controlled action (ie. whether you think that significant impacts on the matters protected under Part 3 of the EPBC Act are likely) and the reasons why.

6.1 Do you THINK your proposed action is a controlled action?

X	No, complete section 5.2
	Yes, complete section 5.3

6.2 Proposed action IS NOT a controlled action.

Specify the key reasons why you think the proposed action is NOT LIKELY to have significant impacts on a matter protected under the EPBC Act.

The proposed action involves necessary maintenance works for an existing facility, which has been in operation since 1982. The proposed maintenance dredging and relocation of material to the beach nourishment area will provide for improved environmental outcomes relating to the beneficial reuse of the material.

A small volume of maintenance dredge material is required to be removed, between 10,000 m³ and 30,000 m³ which will occur over a period of 3-4 weeks. The short duration and nature of the material to be dredged, being course to medium sands, will minimise the generation of turbidity. Localised turbidity will be generated as part of the maintenance dredging and relocation of material to the beach nourishment area. The maintenance dredging is mostly confined within the existing MOF and the associated breakwater acts to limit the movement and extent of turbid water. Previous maintenance dredging at the MOF has not resulted in the generation of extensive turbidity within the local area. Modelling of other, much larger dredging projects within the region, has indicated that turbidity is more significantly associated with the placement of dredged material in offshore relocation areas rather than at the point source of the dredger (GHD, 2009; SKM, 2015; Advisian, 2015). Modelling conducted as part of the Abbot Point Growth Gateway Project found that using a cutter suction dredger turbidity did not extend further than 500 m from the point source (Advisian, 2015). As such the relocation of dredged material to the beach nourishment area rather than offshore, will limit the potential for generation of turbidity.

The proposed action will be undertaken in accordance with conditions of approval and management plans of existing State environmental permits covering the maintenance activities and dredging as well as approved amendments in relation to beach nourishment (see attachment 5).

It is considered highly unlikely that the proposed action will have a significant impact upon a matter of NES.

6.3 Proposed action IS a controlled action

Type 'x' in the box for the matter(s) protected under the EPBC Act that you think are likely to be significantly impacted. (The 'sections' identified below are the relevant sections of the EPBC Act.)

	Matters likely to be impacted
	World Heritage values (sections 12 and 15A)
	National Heritage places (sections 15B and 15C)
	Wetlands of international importance (sections 16 and 17B)
	Listed threatened species and communities (sections 18 and 18A)
	Listed migratory species (sections 20 and 20A)
	Protection of the environment from nuclear actions (sections 21 and 22A)
	Commonwealth marine environment (sections 23 and 24A)
	Great Barrier Reef Marine Park (sections 24B and 24C)
	A water resource, in relation to coal seam gas development and large coal mining development (sections 24D and 24E)
	Protection of the environment from actions involving Commonwealth land (sections 26 and 27A)
	Protection of the environment from Commonwealth actions (section 28)
	Commonwealth Heritage places overseas (sections 27B and 27C)

Specify the key reasons why you think the proposed action is likely to have a significant adverse impact on the matters identified above.

7 Environmental record of the responsible party

NOTE: If a decision is made that a proposal needs approval under the EPBC Act, the Environment Minister will also decide the assessment approach. The EPBC Regulations provide for the environmental history of the party proposing to take the action to be taken into account when deciding the assessment approach.

		Yes	No
7.1	**Does the party taking the action have a satisfactory record of responsible environmental management?** **Provide details** • Environment Policy which covers all of NQBP's activities. • Environment Management System that is externally certified as being compliant with the international standard AS/NZS ISO 14001: 2004. • Port Environmental Management Plan in place (NQBP 2010). • No actions against NQBP	✓	
7.2	**Has either (a) the party proposing to take the action, or (b) if a permit has been applied for in relation to the action, the person making the application - ever been subject to any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources?** **If yes, provide details**		✓
7.3	**If the party taking the action is a corporation, will the action be taken in accordance with the corporation's environmental policy and planning framework?** **If yes, provide details of environmental policy and planning framework** NQBP has in place an Environment Policy which covers all of its activities. A copy is provided in Attachment 1. NQBP also has an Environment Management System that is externally certified as being compliant with the international standard AS/NZS ISO 14001: 2004. The action proposed will be undertaken in accordance with NQBP's Land Use Strategy (*Transport Infrastructure Act 1994).*	✓	
7.4	**Has the party taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?**	✓	

Provide name of proposal and EPBC reference number (if known)		
Dudgeon Point Coal Terminals Project (EPBC 2012/6240) Abbot Point Terminal 0, 2 & 3 Capital Dredging (EPBC 2011/6213) Additional Offshore Geotechnical Investigation Abbot Point (EPBC 2011/5994) Mount Luce Quarry (EPBC 2011/5924) Offshore Geotechnical Investigations Abbot Point (EPBC 2010/5774) Abbot Point Stormwater Return Dam (EPBC 2010/5561) Abbot Point Multi-Cargo Facility (EPBC 2009/4837) X110 Expansion: Dredging Project (EPBC 2008/4438) Seismic and sonar surveys – Abbot Point (EPBC 2008/4289) Additional components to Stage 3 Expansion Abbot Point Coal Terminal (EPBC 2007/3884) Abbot Point Coal Terminal Stage 3 Expansion (EPBC 2005/2154) Port of Hay Point Sea Dumping (EPBC 2005/1993) Port of Hay Point Capital Dredging (EPBC 2005/1976) Port of Hay Point Berth and Apron Area Capital Dredging (EPBC 2004/1775) Port of Weipa Capital Dredging (EPBC 2003/1311) Cape Flattery Wharf Structure (EPBC 2001/148) Dalrymple Bay Coal Terminal Expansion Stages 6 and 7 (EPBC 2000/7)		

8 Information sources and attachments

(For the information provided above)

8.1 References

- List the references used in preparing the referral.
- Highlight documents that are available to the public, including web references if relevant.

Advisian, 2015, Abbot Point Growth Gateway Project Environmental Impact Assessment, Prepared for the Department of State Development.

BAAM, 2012. *Cumulative Impact Assessment: Migratory Shorebird and Waterbird Surveys, Caley Valley Wetland, Port of Abbot Point.* Report prepared for North Queensland Bulk Ports Corporation, (including follow up survey results reported in June, Nov, Dec 2012).

Bell, I. 2003. Turtle Population Dynamics in the Hay Point, Abbot Point and Lucinda Port Areas. Report by Threatened Species Unit of QPWS for the Ports Corporation of Queensland June 2003.

Cardno Chenoweth 2012, Abbot Point Cumulative Impact Assessment – Visual Impact Assessment, Report prepared for Abbot Point Working Group

DEHP, 2016 Vegetation Management Supporting Map for Abbot Point, generated 29 March 2016.

DoE, 2015, Statement of Reasons, Abbot Point Growth Gateway Project.

Dobbs, K.A. (2007). Marine turtle and dugong habitats in the Great Barrier Reef Marine Park used to implement biophysical operational principles for the Representative Areas Program. *Unpublished Report of the Great Barrier Reef Marine Park Authority, Townsville*.

Ecotone Environmental Services, 2016 Abbot Point Coal Terminal Vegetation Assessment, prepared for North Queensland Bulk Ports Corporation.

ELA Ecological Australia, 2012, Abbot Point Cumulative Impact Assessment, Prepared for North Queensland Bulk Ports Corporation Limited, Adani Australia Pty Ltd. BHP Billiton, and GVK Hancock Coal.

Ecoserve 2007, Abbot Point and Caley Valley Wetlands 2007, Wet Season Flora and Fauna Surveys, Draft report for Newlands Collinsville Abbot Point Project (NCA).

GHD, 2009a, Report for Port of Abbot Point Baseline Monitoring: Baseline Marine Fauna Report, Prepared for North Queensland Bulk Ports Corporation Limited.

GHD, 2009b, Report for Port of Abbot Point Multi Cargo Facility: Terrestrial and Aquatic Ecology Assessment, Prepared for North Queensland Bulk Ports Corporation Limited.

GHD, 2009c, Report for Port of Abbot Point Baseline Monitoring: Benthic Baseline Assessment Report, Prepared for North Queensland Bulk Ports Corporation Limited.

GHD, 2009d, Report for Port of Abbot Point Multi Cargo Facility: Coastal Processes Assessment, Prepared for North Queensland Bulk Ports Corporation Limited.

GHD, 2015, Abbot Point, Material Offloading Facility Dredging Sediment Sampling and Analysis Plan Implementation Report, March 2015 prepared for Mundra Ports Pty Ltd.

Hollingsworth P, 1981, Abbot Point Coal Terminal Impact Assessment Report, preprared for Ports Corporation of Queensland.

Lucas, PHC., Webb, T, Valentine PS, and Marsh H (eds) 1997, The Outstanding Universal Value of the Great Barrier Reef World Heritage Area, Great Barrier Reef Marine Park Authority, Townsville.

McKenna SA and Rasheed MA, 2014, Port of Abbot Point Long-Term Seagrass monitoring: Annual Report 2012-2013, JCU Publication, Centre for Tropical Water and Aquatic Ecosystem Research, Cairns.

Noad, M.J., Dunlop, R.A. Paton, D. and Kniest, H 2011, Abundance estimates of the east Australian humpback whale population: 2010 survey and update, Paper SC/63/SH22, Submitted to the International Whaling Commission Scientific Committee, Tromso, Norway (unpublished).

Rasheed MA, Thomas R and McKenna SA, 2005, Port of Abbot Point seagrass, algae and benthic macro-invertebrate community survey - March 2005. DPI&F Information Series QI05044 (DPI&F, Cairns).

Richardson, W. J., C. R. J. Greene, C. I. Malme and D. H. Thomson, 1995, Marine mammals and noise. San Diego, Academic Press.

WBM, 2006, Port of Abbot Point Stage 3 Expansion Environmental Impact Statement, prepared for Ports Corporation of Queensland.

8.2 Reliability and date of information

For information in section 3 specify:

- source of the information;
- how recent the information is;
- how the reliability of the information was tested; and
- any uncertainties in the information.

The information relied upon in preparing this referral is publicly available reports on key areas of environmental significance within the port.

8.3 Attachments

Indicate the documents you have attached. All attachments must be less than three megabytes (3mb) so they can be published on the Department's website. Attachments larger than three megabytes (3mb) may delay the processing of your referral.

		✓ attached	Title of attachment(s)
You must attach	figures, maps or aerial photographs showing the project locality (section 1)	✓	Attachment 1 – Figures
	GIS file delineating the boundary of the referral area (section 1)	✓	
	figures, maps or aerial photographs showing the location of the project in respect to any matters of national environmental significance or important features of the environments (section 3)	✓	
If relevant, attach	copies of any state or local government approvals and consent conditions (section 2.5)	✓	Attachment 2 – Existing permits
	copies of any completed assessments to meet state or local government approvals and outcomes of public consultations, if available (section 2.6)	✓	Attachment 3 – Previous assessment reports
	copies of any flora and fauna investigations and surveys (section 3)	✓	Attachment 4 – Ecological investigations
	technical reports relevant to the assessment of impacts on protected matters that support the arguments and conclusions in the referral (section 3 and 4)	✓	Attachment 5 – Management plans
	report(s) on any public consultations undertaken, including with Indigenous stakeholders (section 3)		

9 Contacts, signatures and declarations

NOTE: Providing false or misleading information is an offence punishable on conviction by imprisonment and fine (s 489, EPBC Act).

Under the EPBC Act a referral can only be made by:

- the person proposing to take the action (which can include a person acting on their behalf); or
- a Commonwealth, state or territory government, or agency that is aware of a proposal by a person to take an action, and that has administrative responsibilities relating to the action[1].

Project title: Abbot Point Marine Offloading Facility Beach Nourishment and Maintenance Dredging

9.1 Person proposing to take action

This is the individual, government agency or company that will be principally responsible for, or who will carry out, the proposed action.

If the proposed action will be taken under a contract or other arrangement, this is:

- the person for whose benefit the action will be taken; or
- the person who procured the contract or other arrangement and who will have principal control and responsibility for the taking of the proposed action.

If the proposed action requires a permit under the Great Barrier Reef Marine Park Act[2], this is the person requiring the grant of a GBRMP permission.

The Minister may also request relevant additional information from this person.

If further assessment and approval for the action is required, any approval which may be granted will be issued to the person proposing to take the action. This person will be responsible for complying with any conditions attached to the approval.

If the Minister decides that further assessment and approval is required, the Minister must designate a person as a proponent of the action. The proponent is responsible for meeting the requirements of the EPBC Act during the assessment process. The proponent will generally be the person proposing to take the action[3].

1. Name and Title:	Grant Gaston Senior Manager Port Development
2. Organisation (if applicable):	North Queensland Bulk Ports Corporation Organisation name should match entity identified in ABN/ACN search
3. EPBC Referral Number (if known):	
4: ACN / ABN (if applicable):	36 136 880 218
5. Postal address	GPO Box 409 Brisbane QLD
6. Telephone:	0434 244 633
7. Email:	ggaston@nqbp.com.au
8. Name of proposed proponent (if not the same person at item 1 above and if applicable):	

[1] *If the proposed action is to be taken by a Commonwealth, state or territory government or agency, section 8.1 of this form should be completed. However, if the government or agency is aware of, and has administrative responsibilities relating to, a proposed action that is to be taken by another person which has not otherwise been referred, please contact the Referrals Gateway (1800 803 772) to obtain an alternative contacts, signatures and declarations page.*

[2] *If your referred action, or a component of it, is to be taken in the Great Barrier Reef Marine Park the Minister is required to provide a copy of your referral to the Great Barrier Reef Marine Park Authority (GBRMPA) (see section 73A,* EPBC Act*). For information about how the GBRMPA may use your information, see http://www.gbrmpa.gov.au/privacy/privacy_notice_for_permits.*

same person named at item 1 above):

COMPLETE THIS SECTION ONLY IF YOU QUALIFY FOR EXEMPTION FROM THE FEE(S) THAT WOULD OTHERWISE BE PAYABLE

I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:

- ☐ an individual; OR
- ☐ a small business entity (within the meaning given by section 328-110 (other than subsection 328-119(4)) of the *Income Tax Assessment Act 1997*); OR
- ☐ not applicable.

If you are small business entity you must provide the Date/Income Year that you became a small business entity:

Note: You must advise the Department within 10 business days if you cease to be a small business entity. Failure to notify the Secretary of this is an offence punishable on conviction by a fine (regulation 5.23B(3) *Environment Protection and Biodiversity Conservation Regulations 2000* (Cth)).

COMPLETE THIS SECTION ONLY IF YOU WOULD LIKE TO APPLY FOR A WAIVER

I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations. Under sub regulation 5.21A(5), you must include information about the applicant (if not you) the grounds on which the waiver is sought and the reasons why it should be made:

- ☐ not applicable.

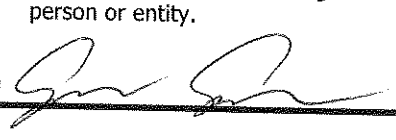
Declaration

I declare that to the best of my knowledge the information I have given on, or attached to this form is complete, current and correct.

I understand that giving false or misleading information is a serious offence.

I agree to be the proponent for this action.

I declare that I am not taking the action on behalf of or for the benefit of any other person or entity.

Signature  Date 27/4/2016

9.2 Person preparing the referral information (if different from 8.1)

Individual or organisation who has prepared the information contained in this referral form.

Name	Julie Keane
Title	Principal Environmental Planner
Organisation	Environment and Planning Strategies Pty Ltd Organisation name should match entity identified in ABN/ACN search
ACN / ABN (if applicable)	48 610 558 168
Postal address	Unit 7, 25 View Street Mount Gravatt East, Qld, 4122
Telephone	0409 641 949
Email	julie.keane@epstrategies.com.au
Declaration	I declare that to the best of my knowledge the information I have given on, or attached to this form is complete, current and correct. I understand that giving false or misleading information is a serious offence.

Signature  Date 26/04/2016